



Bay Area
Travel and Mobility Characteristics

1990 Census

Working Paper #2

DOCUMENTS SECT.

DEC 24 1992

SAN FRANCISCO
PUBLIC LIBRARY

D
REF
388.4097
P978ba

JOSEPH P. BORT METROCENTER • 101 EIGHTH STREET • OAKLAND CALIFORNIA 94607-4700



217



DOCUMENTS

SAN FRANCISCO
PUBLIC LIBRARY

REFERENCE
BOOK

Not to be taken from the Library



Bay Area
Travel and Mobility Characteristics
1990 Census
Working Paper #2

Planning Section
Metropolitan Transportation Commission
101 Eighth Street
Oakland, California 94607-4700

August, 1992

D REF 388.4097 P978ba

Purvis, Charles L.

Bay Area travel and
mobility
1992.

Table of Contents

<u>I. Introduction</u>	1
<u>II. Demographic and Economic Characteristics</u>	3
A. Growth in Employed Residents – 1980 - 1990	3
B. Households by Household Income – 1980 - 1990	4
<u>III. Mobility and Vehicle Ownership</u>	5
A. Residential Mobility	5
B. Vehicle Ownership	5
C. Disability	7
<u>IV. Work Travel Characteristics</u>	8
A. Place-of-Residence / Place-of-Work Locations	8
B. Means of Transportation to Work – 1980 - 1990	10
C. Historical Means of Transportation to Work – 1960 - 1990	11
D. Commute Vehicle Occupancy – 1970 - 1990	12
E. Trip Length for the Journey-to-Work	12
F. Time of Departure to Work	14
<u>V. Discussion – Why These Changes in Commute Travel?</u>	15
The Dollars and Cents of Commuting	16
The Dollars and Center of Transportation Investments	17
The Changing Patterns of Urban Development	17
The Changing Patterns of Household Demographics	19
<u>VI. The Bay Area and the United States – A Comparison</u>	22

APPENDICES

<u>A. Travel and Mobility Characteristics: MTC's 34 Superdistricts</u>	45
<u>B. Travel and Mobility Characteristics: Counties Adjacent to Bay Area</u>	69
<u>C. Travel and Mobility Characteristics: Bay Area Cities</u>	76
<u>D. Description of MTC 34 Superdistricts</u>	105
Annotated Bibliography	110
Acknowledgments	113

List of Tables

<u>Table</u>	<u>Page</u>
1. Growth in Employed Residents – 1980 - 1990	25
2. Distribution of Households by Household Income – 1990	26
3. Cumulative Distribution of Households by Household Income – 1990	28
4. Change in Mean Household Income – 1980 - 1990	30
5. Residential Mobility – Place-of-Residence in 1975 and 1985	31
6. Distribution of Households by Vehicle Ownership – 1960 - 1990	32
7. Vehicles Owned – by County – 1960 - 1990	33
8. Vehicles Available by Race of Householder	34
9. Percent of Workers Working in County of Residence – 1960 - 1990	35
10. Growth in Intra-County versus Inter-County Commuting – 1980 - 1990	36
11. Bay Area County-to-County Commute Patterns – 1960 - 1990	37
12. Workers by Means of Transportation to Work – 1980 - 1990	38
13. Workers by Means of Transportation to Work – 1960 - 1990	39
14. In-Vehicle Commuters by Commute Vehicle Occupancy – 1980 - 1990	40
15. Average Commute Vehicle Occupancy – 1970 - 1990	41
16. Workers by Mean Travel Time to Work – 1980 - 1990	42
17. Commuters by Trip Length (Minutes) to Work – 1980 - 1990	43
18. Number of Workers by Time Leaving Home to go to Work – 1990	44

APPENDIX A. Travel and Mobility Characteristics: MTC's 34 Superdistricts

A-1. Employed Residents by MTC 34 Superdistrict & County, 1980 - 1990	52
A-2. Average (Mean) Household Income by MTC 34 Superdistrict & County, 1980 - 1990	53
A-3. Households by Number of Vehicles Available by MTC 34 Superdistrict & County, 1980 - 1990	54
A-4. Share of Households by Number of Vehicles Avail. by MTC 34 Superd. & County, 1980 - 1990	55
A-5. Household Vehicle Ownership by MTC 34 Superdistrict & County, 1980 - 1990	56
A-6. Intra-County and Inter-County commuters by MTC 34 Superdistrict & County, 1990	57
A-7. Workers by Means of Transportation to Work by MTC 34 Superdistrict & County, 1980 - 1990	58
A-8. Share of Workers by Means of Transport. to Work by MTC 34 Superd. & County, 1980 - 1990	59
A-9. Workers by "Commute-Person" Means by MTC 34 Superdistrict & County, 1980 - 1990	60
A-10. Share of Workers by "Commute-Person" Means by MTC 34 Superd. & County, 1980 - 1990	61
A-11. Vehicle Occupancy by MTC 34 Superdistrict & County, 1980 - 1990	62
A-12. "Average Vehicle Ridership" by MTC 34 Superdistrict & County, 1980 - 1990	63
A-13. "Average Vehicle Ridership" by MTC 34 Superdistrict & County, 1980 - 1990 (Exclusive)	64
A-14. Travelers to Work by Mean Travel Time by MTC 34 Superdistrict & County, 1980 - 1990	65
A-15. Workers by Trip Length (Minutes) to Work by MTC 34 Superdistrict & County, 1980 - 1990	66
A-16. Share of Workers by Trip Length (Min.) to Work by MTC 34 Superd. & County, 1980 - 1990	67

APPENDIX B. Travel and Mobility Characteristics: Counties Adjacent to the Bay Area.

B-1. Compare Bay Area to Neighboring Counties, 1990	73
---	----

APPENDIX C. Travel and Mobility Characteristics: Bay Area Cities

C-1. Transportation-Related Data at Place-of-Residence, 1990 Census STF3A	85
C-2. Transportation-Related Data at Place-of-Residence, 1990 Census STF3A (Shares and Rates)	89
C-3. More Transportation-Related Data at Place-of-Residence, 1990 Census STF3A	93

List of Figures

Figure A.1. Map of MTC 34 Superdistricts	68
Figure B.1. Map of Bay Area and Adjacent Counties	75
Figure C.1. Alameda County: Location of Census Designated Places	97
Figure C.2. Contra Costa County: Location of Census Designated Places	98
Figure C.3. Marin County: Location of Census Designated Places	99
Figure C.4. Napa County: Location of Census Designated Places	100
Figure C.5. San Mateo County: Location of Census Designated Places	101
Figure C.6. Santa Clara County: Location of Census Designated Places	102
Figure C.7. Solano County: Location of Census Designated Places	103
Figure C.8. Sonoma County: Location of Census Designated Places	104



Digitized by the Internet Archive
in 2015

<https://archive.org/details/bayareatravelmob1992purv>

I. Introduction

The purpose of this working paper is to summarize some of the important data and key findings from the 1990 federal Decennial Census *Summary Tape File 3A* (STF3A) data tape. The STF3A data – the first “sample” data released by the U.S. Bureau of the Census – is from the “long form” census, handed out to approximately one-in-six Americans (one-in-eight urban Americans). Comparisons to past census years are included to provide historical context for the 1990 Census numbers. Data and analyses in this working paper are oriented to the interests of Bay Area transportation planners and policy-makers.

The geographic levels reported in this working paper include: Bay Area regional totals, county totals, MTC’s 34 superdistricts, counties neighboring the Bay Area, and cities and Census Designated Places (CDPs) within the Bay Area. County and regional analyses and tables are included in the main body of this working paper. Superdistrict-level analyses are included in Appendix A. Appendix B provides information on counties adjacent to the Bay Area. Cities and places within the Bay Area are discussed in Appendix C.

Some of the 1990 Census questions of interest to transportation planners and policy-makers include the following:

Q. H13: “How many automobiles, vans, and trucks of one-ton capacity or less are kept at home for use by members of your household?” (Previously asked in the 1960, 1970 and 1980 Censuses).

Q. H14a: “Did this person live in this house or apartment 5 years ago (on April 1, 1985)?” (Previously asked in the 1980 Census).

Q. H14b: [If answer to 14a is no, then] “Where did this person live 5 years ago (on April 1, 1985)?” (Previously asked in the 1980 Census).

Q. 18: “Does this person have a physical, mental, or other health condition that has lasted for 6 or more months and which – a) limits the kind or amount of work this person can do at a job? b) prevents this person from working at a job?” (Previously asked in the 1980 Census).

Q. 19: “Because of a health condition that has lasted for 6 or more months, does this person have any difficulty – a) going outside the home alone, for example, to shop or visit a doctor’s office? b) taking care of his or her own personal needs, such as bathing, dressing, or getting around inside the home?” (First time asked in the 1990 Census).

Q. 21a: “Did this person work at any time LAST WEEK?”. (Previously asked in the Census).

Q. 22: "At what location did this person work LAST WEEK?" (Previously asked in the 1960, 1970 and 1980 Censuses).

Q. 23a: "How did this person usually get to work LAST WEEK?". (Previously asked in the 1960, 1970 and 1980 Censuses).

Q. 23b: "How many people, including this person, usually rode to work in the car, truck, or van LAST WEEK?". (Previously asked in the 1980 Census).

Q. 24a: "What time did this person usually leave home to go to work LAST WEEK?". (First time asked in the 1990 Census).

Q. 24b: "How many minutes did it usually take this person to get from home to work LAST WEEK?". (Previously asked in the 1980 Census).

Q. 33: "What was this person's total income in 1989".

Summary Tape File 3A provides only very limited journey-to-work information, such as commute shares and commute vehicle occupancy by City, County, Census Tract and Block Group of residence; intra-county commuting; auto ownership; income; labor force; etc. No workplace information is available from the STF3A tape file.

The 1990 Census Transportation Planning Package (The CTPP). The "Journey-to-Work" Package. Detailed journey-to-work information, providing city-to-city and county-to-county commute data will be made available by the Census Bureau during the latter part of 1992 (September - November, 1992). Even more detailed journey-to-work data, at the local travel analysis zone level (zone-to-zone commute) will be available in early 1993 (March - July, 1993). These two elements of the "journey-to-work" package – the "statewide element" and the "urban element" – will provide transportation planners and policy-makers with abundant, detailed and accurate portrayals of commuting patterns and socio-economic characteristics.

II. Demographic and Economic Characteristics

Some of the most critical socio-economic characteristics released in the Summary Tape File 3A file are the count of employed residents (civilian and military), and households by household income level. Many of the other important socio-economic data items, including household population, households by household size, owner/renter tenure of the household, etc., were released in 1991 in the *Summary Tape File 1A* (100 percent count data). Review and analysis of STF1A data for the Bay Area is included in the MTC Working Paper #1: "*Bay Area Population Characteristics: 1990 Census*" published April 1992.

A. Growth in Employed Residents – 1980 - 1990

Growth in employed residents (civilian employed plus armed forces) by Bay Area counties is shown in Table 1. Changes in employed per household and employed share of total population are shown.

The number of employed residents in the Bay Area expanded by 23.4 percent between 1980 and 1990, a growth of nearly 600 thousand new workers. Growth in workers (23.4 %) exceeded that of growth in households (14.0%) and growth in total population (16.3%) thereby resulting in increased workers per household and increased labor force participation rates. Workers per household increased from a regional average of 1.296 workers per household in 1980 to 1.403 workers per household in 1990. In 1980, 49.3 percent of all persons were employed; by 1990, this figure had increased to 52.3 percent of all persons.

By county, Solano and Sonoma showed the fastest increase in employed residents, with Solano County adding 57.9 percent more workers (+59.5 thousand workers), and Sonoma County adding 48.2 percent more workers (+63.2 thousand workers). In terms of absolute increase, Santa Clara County led the way by adding 145.7 thousand new workers between 1980 and 1990.

Workers per household rates range from a low of 1.275 workers/household in Napa County to a high of 1.562 workers per household in Santa Clara County. The sharpest increase in workers per household, 1980 to 1990, occurred in Sonoma County (1.146 workers/household in 1980 to 1.305 workers/household in 1990). Marin County showed the least change in workers per household between 1980 and 1990 (1.336 to 1.343).

Employed share of total population ranged from 47.6 percent of Napa County residents to 55.4 percent of Marin County residents (1990, workers divided by total population). Sonoma County showed the most significant increase with 43.8 percent of the County's population employed in 1980 increasing to 50.1 percent employed in 1990.

B. Households by Household Income – 1980 - 1990

The count of 1990 households by twenty-five income categories is shown in Table 2. Cumulative numbers and percentages of households by income category are shown in Table 3. Also shown in Table 2 are best estimates for income "tertiles" (three income categories: high, medium, low); and for income "quartiles" (four income categories: high, medium-high, medium-low, low). Growth in county and regional mean household income, 1980 to 1990, is summarized in Table 3.

The best Bay Area breakdown for income "tertiles" is: less than \$30,000 (34.2% of all households); \$30,000 to \$59,999 (35.6% of all households); and more than \$60,000 (30.2% of all households). The best Bay Area breakdown for income "quartiles" is: less than \$22,500 (24.6% of households); \$22,500 - \$42,499 (26.8% of households); \$42,500 - \$74,999 (29.6% of households); and more than \$75,000 (19.0% of all households). Income tertiles and quartiles have proven useful for transit market and transportation market segmentation analyses. These income groups are determined using information on the cumulative distributions of households (Table 3).

The average (mean) Bay Area household income increased from \$44,082 in 1980 (1989 dollars), to \$52,082 in 1990 (1989 dollars), a 18.1 percent increase in real household income (Table 4). By county, 1990 mean household incomes ranged from \$43.6 thousand in Solano County to \$67.8 thousand in Marin County. Other counties with mean household incomes greater than the regional average (1990) include San Mateo (\$59,521), Santa Clara (\$57,913), and Contra Costa (\$55,033) Counties. Napa County showed the smallest real increase in mean household income between 1980 and 1990 (+13.5%); San Francisco, the largest real increase (+22.3%).

III. Mobility and Vehicle Ownership

A. Residential Mobility

The 1990 Census asked residents ages five years and older where they lived five years ago, in 1985. This data provides demographers with important statistics on inter-state and inter-regional migration patterns, and is an excellent data source on residential mobility and housing turnover patterns. County-level comparisons of 1980 Census to 1990 Census (where was their residence in 1975 and 1985) are included in Table 5.

Bay Area residents were less likely to change residences during the 1985-1990 period as compared to the 1975-1980 period. All counties except Alameda showed an increase in the share of residents residing in the same house for the five years preceding the Census year. Regionally, 47.2 percent of Bay Area residents in 1990 lived in the same house in 1985. This contrasts to 46.2 percent of Bay Area persons in 1980 living in the same residence as in 1975.

The most “mobile” county, in terms of lowest share of persons living in the same residence in 1985, was Solano County (40.0 percent living in the same residence in 1985). The most “stable” county (highest share living in the same residence) was San Mateo County (52.3 percent).

Intra-county migration (different residence, same county) ranges from a low of 23.0 percent of San Mateo County residents, to a high of 31.6 percent of Santa Clara County residents. Intra-state migration (different residence, different California county) ranges from a low 8.6 percent of Santa Clara County residents to a high of 21.9 percent of Solano County residents.

The highest share of residents from out-of-California U.S. immigrants is the 10.2 percent of Solano County residents. The highest share of international immigrants (lived abroad in 1985) is the 8.6 percent of San Francisco County residents.

B. Vehicle Ownership

Vehicle ownership was first asked of households in the 1960 federal Decennial Census. County and regional level comparisons of the distribution of households by vehicles owned, 1960 to 1990, is shown in Table 6. Region-wide, the share and number of households owning *no* vehicles has steadily declined from a high of 19.7 percent of all households in 1960; to 15.8 percent of households in 1970; to 12.2 percent of all households in 1980; and to 10.5 percent of all households in 1990.

The share of households owning one vehicle has declined from 35.8% of households in 1980 to 32.5% of all regional households in 1990. The share of regional households owning two vehicles has increased from 32.6 percent in 1980 to 36.5 percent in 1990. And the share of households owning three-or-more vehicles has increased from 19.4 percent of all households in 1980 to 20.5 percent of all households in 1990.

This means that the regional average vehicles per household has increased from 1.12 vehicles/household in 1960; to 1.34 vehicles/household in 1970; to 1.68 vehicles/household in 1980; to 1.76 vehicles/household in 1990.

Number of vehicles owned, by County, 1960 - 1990, is shown in Table 7. MTC staff had to make assumptions about the average number of vehicles owned in the three-or-more vehicle owning categories for the 1960, 1970 and 1980 Censuses. Further comparisons to State Department of Motor Vehicle estimates of auto ownership will be necessary in order to reconcile Census versus DMV estimates. Growth in vehicles per household and vehicles per person are also indicated in Table 7.

Region-wide, the census data shows a 19.1 percent growth in auto ownership in the Bay Area between 1980 and 1990. This compares to a 14.0 percent growth in total households and a 16.3 percent growth in total population, 1980 to 1990.

Per capita vehicle ownership increased sharply between 1960 (0.36 vehicles per capita) through to 1970 (0.45 vehicles/capita) and to 1980 (0.64 vehicles/capita), levelling off at 0.66 vehicles per capita, region-wide, according to the 1990 Census.

By county, vehicle ownership per household ranges from a low of 1.06 vehicles per household in San Francisco County (in 1990) to a high of 1.99 vehicles per household in Santa Clara County. Other counties with above regional average vehicle ownership rates include Solano (1.94), Contra Costa (1.91), Napa (1.90), Sonoma (1.90), San Mateo (1.88), and Marin (1.85) Counties. Only Alameda and San Francisco Counties have vehicle ownership rates lower than Bay Area averages.

Vehicles per capita ranges from a low of 0.45 vehicles per person in San Francisco County to a high of 0.76 vehicles per person in Marin County. (Vehicle ownership per capita may also be expressed in the number of vehicles owned per 1000

persons, e.g., 450 vehicles per 1000 persons residing in San Francisco County to a high of 760 vehicles per 1000 persons residing in Marin County). Auto ownership rates, per capita, have stabilized in most Bay Area counties between 1980 and 1990.

Vehicle availability by the race of the householder is shown in Table 8. The householder is the first adult member (16 years or over) listed on the 1990 Census form. Households are stratified into households with no vehicles and households with one-or-more vehicles. Regionally, 24.0 percent of the Bay Area black households own no vehicles. This compares to 8.5 percent of Bay Area white households, 13.3 percent of Asian / Pacific Islander households, and 11.4 percent of Hispanic households. Black householders overall comprise 8.4 percent of all households, yet are 19.0 percent of all zero-auto owning households.

San Francisco, with 13.6 percent of all Bay Area households, has 39.7 percent of all Bay Area zero-auto households. In San Francisco, 28.3 percent of white households own no vehicles, compared to 42.2 percent of black households, 32.3 percent of Asian / Pacific Islander households, and 32.1 percent of all San Francisco hispanic households. (Note that the white householders, black householders, etc., in Table 8 *includes* hispanic householders, e.g., white hispanic householders plus white non-hispanic householders equals white householders).

C. Disability

The 1980 and 1990 Censuses asked identical questions on worker disability, relating to a "physical, mental, or other health condition which has lasted for 6 or more months and which a) limits the kind or amount of work this person can do at a job; and/or b) prevents this person from working at a job." The 1980 Census also asked whether the person had a condition which "limits or prevents this person from using public transportation". After extensive pre-testing of disability questions in the mid-1980s, the Census Bureau deleted the question on public transportation disability and replaced it with a two part question (question #19a, #19b) on mobility outside the home (mobility limitation status) and mobility within the home related to "own personal needs, such as bathing, dressing, or getting around inside the home" (self-care limitation status).

Quite unfortunately, the U.S. Census Bureau had released all copies of the STF3A tape files to all states before discovering an error in tables related to mobility limitation status and self-care limitation status. Only tables on work disability (and

all other tables in STF3A) are accurate. The Census Bureau will be re-issuing all STF3A tape files during the latter part of 1992 to correct for these errors. At that time, MTC analysts will prepare an addendum report discussing Bay Area population data on work disability, mobility limitation, and self-care limitation.

IV. Work Travel Characteristics

A. Place-of-Residence / Place-of-Work Locations

The 1990 Census STF3A data *only* provides data on *intra*-state and *intra*-county (as opposed to *inter*-county) commuting. Comparisons of *intra*-county commuting shares (the percent of resident county workers living-and-working in the same county) is shown in Table 9.

Low percentages (< 65 percent) indicate a high share of out-commuting (i.e., the typical "bedroom" community). High percentages (> 80 percent) indicate a high degree of short distance commuting for that county's resident workers.

Regionally, the share of commuters living-and-working in their county of residence has steadily declined since 1960. In 1960, 82.0 percent of all Bay Area workers lived-and-worked in their county of residence. This has since declined to 76.7 percent of all commuters in 1970; 76.2 percent of all commuters in 1980; and now at 73.6 percent of all commuters in 1990, living-and-working in their county of residence.

The leading "bedroom" counties in the Bay Area are San Mateo County (just 58.1 percent of 1990 commuters working intra-county); Marin County (58.6 percent of 1990 commuters); Contra Costa (59.8 percent of 1990 commuters); and Solano County (61.4 percent of 1990 commuters). The most significant shift is for intra-county commute share in Solano County, where 73.1 percent of commuters in 1980 and only 61.4 percent of all commuters in 1990 lived-and-worked in Solano County.

At the other extreme, 89.2 percent of Santa Clara County resident workers lived-and-worked in Santa Clara County jobs; followed by 81.8 percent of Sonoma County work force; and 80.4 percent of San Francisco County's work force.

Growth in intra-county as compared to inter-county commuting, 1980 to 1990, is shown in Table 10. County-to-county commuter estimates, based on past Census

journey-to-work statistics and the 1990 Census Summary Tape File 3A, are also provided in Table 11. Data users should use extreme care when using 1990 data from Table 11! For 1990, only the highlighted values with triple-asterisks are from the 1990 Census STF3A file. All other 1990 values are preliminary MTC estimates.

The number of commuters in the Bay Area increased by 24.3 percent between 1980 and 1990, a growth of 600 thousand new commuters (Table 10). This can be broken down into a 19.3 percent growth in intra-county commuters (+368 thousand commuters); and a 40.4 percent growth in inter-county commuters (+235 thousand commuters). The term "intra-county" commuters means workers who work in their county-of-residence (e.g., live-and-work in San Francisco, live-and-work in Alameda, etc.)

Two counties showed faster growth in intra-county commuting as opposed to inter-county commuting: Contra Costa and Marin Counties. This means that resident workers from these two counties are finding more local job opportunities in 1990, as compared to 1980. The other seven Bay Area counties showed faster growth in inter-county as opposed to intra-county commuting. Solano County showed the fastest percent growth in inter-county commuting (+111.4%) between 1980 and 1990, more than doubling the number of inter-county commuters coming from Solano County households working in jobs outside Solano.

Also of note is the increase in "reverse" commuting from job-rich San Francisco and Santa Clara Counties. San Francisco to rest of the Bay Area commuting increased by 51.4 percent between 1980 and 1990; San Francisco-to-San Francisco commuting increased by just 8.1 percent. Santa Clara to rest of the Bay Area increased by 60.9%; intra-Santa Clara County commuting increased by 18.8 percent.

As percentage increases can be deceiving, the data user is encouraged to review absolute increases in commuting numbers as well. For example, Santa Clara-to-Santa Clara County commuting increased by 112.6 thousand commuters between 1980 and 1990; Santa Clara to rest of Bay Area increased by 32.6 thousand commuters, 1980 to 1990.

Table 11 shows 1990 Census STF3A county-to-county commute data juxtaposed with MTC estimates for the other cells in the matrix. Comparisons to county-to-county commute values from the 1960, 1970 and 1980 Censuses are also provided. The 1990 Census STF3A provides values for "intra-MSA" commuting, "commuting to central city of MSA", and "intra-county" commuting. This

breakdown makes it possible to accurately and precisely isolate county-to-county commute data for certain cells:

- San Mateo County to Marin County commuting increased from 643 commuters in 1980 to 1,406 commuters in 1990 (+118.7%).
- San Mateo County to San Francisco County increased from 78,706 commuters in 1980 to 79,022 commuters in 1990 (+0.4%).
- Marin County to San Mateo County commuting increased from 2,591 commuters in 1980 to 3,239 commuters in 1990 (+25.0%).
- Marin County to San Francisco County commuting decreased from 37,662 commuters in 1980 to 33,690 commuters in 1990 (-10.5%).
- Alameda-to-Contra Costa commuting increased from 18,913 to 35,521 (+87.8%).
- Contra Costa-to-Alameda commuting increased from 68,511 to 83,525 (+21.9%).
- Solano-to-Napa commuting increased from 2,846 to 5,492 (+93.0%).
- Napa-to-Solano commuting increased from 5,572 to 5,805 (+4.2%).

Other county-to-county cells for 1990 are *preliminary* and will be superseded once data is available from the *Statewide Element of the Census Transportation Planning Package* (due the latter part of 1992). The data user should take care in interpreting these numbers. For example, the Santa Clara-to-San Francisco value (10,169 commuters) *may* be too high by 5,000 to 6000; and the Santa Clara-to-Alameda value *may* be too low by 5,000 to 6,000. The data user should exercise independent judgment when using Table 11.

B. Means of Transportation to Work: 1980 - 1990

In 1980, 11.2 percent of the Bay Area work force (279,000 commuters out of 2,483,000 commuters) used public transportation in their journey-to-work (Table 12 and 13). The 1990 Census has revealed that this share has decreased to 9.5 percent of Bay Area workers (293,500 transit commuters out of 3,086,000 total commuters).

Carpooling (two-or-more occupants per passenger vehicle) has also decreased from 16.3 percent in 1980 to 13.0 percent of all workers by 1990. The absolute number of regional carpoolers has also declined from 405 thousand carpool commuters in 1980 to 400 thousand carpool commuters in 1990. On the other hand, the share of Bay Area workers driving alone to work has increased, from 63.0 percent of all workers in 1980 to 68.2 percent of all workers in 1990. This represents a 35.0 percent

growth in drive alone commuting in the Bay Area, compared to an overall 24.4 percent growth in commuting by all modes.

Of note is a doubling in the number of commuters working at home (some of whom are “telecommuters”), increasing from 48 thousand commuters in 1980 (1.9 percent of workers) to 106 thousand (3.4 percent of workers) in 1990.

Commuting by bicycle showed slow growth in the 1980s, increasing from 31,200 daily bicycle commuters in 1980 (1.3 percent of commuters) to 32,500 daily bicycle commuters in 1990 (1.1 percent of commuters). Walking to work declined in share between 1980 and 1990, dropping from 4.4 percent to 3.6 percent of all commuters (109,000 to 112,000 walk commuters).

C. Historical Means of Transportation to Work – 1960 to 1990

Historical data on means of transportation to work are shown in Table 13, comparing data from the 1960, 1970, 1980 and 1990 Censuses. (The older 1960 and 1970 Censuses did not distinguish between drive alone and carpool commuters. This is the reason for the combined category of “in-vehicle” commuter). Regional transit shares have declined from a high of 15.4 percent of all commuters in 1960; to 11.3 percent in 1970; increasing to 11.4 percent in 1980; and again decreasing to 9.5 percent in 1990. Walk-to-work shares have declined steadily since 1960, from 7.8 percent in 1960, to 5.7 percent in 1970, 4.4 percent in 1980, and 3.7 percent in 1990.

Work-at-home commute shares had shown a steady decline between 1960 and 1980, only to reverse this trend in 1990. Work-at-home share declined from 4.7 percent of all commuters in 1960, to 2.4 percent in 1970 and 1.9 percent in 1980, only to increase back to pre-1970 levels with 3.4 percent of commuters working at home in 1990.

Commuting in vehicles – either as a vehicle driver or vehicle passenger – has steadily increased from 1960 to the present, increasing from 69.9% of all commuters in 1960; to 77.9% in 1970; 79.1% in 1980; and peaking at 81.2% of all commuters in 1990.

The number of regional commuters in two-occupant carpools has increased from 288 thousand commuters in 1980 (11.6% of total) to 304 thousand commuters in 1990 (9.9% of total). The number of regional commuters in three-or-more-

occupant carpools and vanpools has *decreased* from 116.4 thousand commuters in 1980 (4.7% of total) to 95.5 thousand commuters in 1990 (3.1% of total) (Table 13). Average *carpool* vehicle occupancy has declined from 2.293 persons per carpool in 1980 (404.7 thousand carpool commuters in 176.5 thousand carpool vehicles) to 2.233 persons per carpool in 1990 (399.7 thousand carpool commuters in 179.0 thousand carpool vehicles), a 2.6 percent decrease in the average carpool size.

D. Commute Vehicle Occupancy – 1970 - 1990

The number of occupants in a commute vehicle was first asked in the 1970 federal Decennial Census. Regional and county-level comparisons of commute vehicle occupancy, 1970 to 1990, is shown in Table 15.

Average regional commute vehicle occupancy has declined in the Bay Area from 1.132 persons per vehicle in 1980 to 1.097 persons per vehicle in 1990, a 3.1 percent drop. Commute vehicle occupancies declined in all counties between 1980 and 1990, ranging from a low of 1.079 persons per vehicle for Santa Clara County resident workers to a high of 1.136 persons per vehicle in Solano County and 1.146 persons per vehicle for San Francisco County resident workers.

Discussions on “average vehicle ridership”, used for air quality planning purposes, is included in Appendix A.

E. Trip Length for the Journey-to-Work

Travel time to work was first asked in the 1980 Census. Comparative 1980 and 1990 mean (average) travel time to work, by county, is shown in Table 16. The average commute travel time for Bay Area resident workers increased by 5.3 percent between 1980 and 1990, from an average 24.3 minutes per one-way commute in 1980 to 25.6 minutes per one-way commute in 1990.

By county, the highest rate of change was for Solano County resident workers, where average commute time increased by 27.0 percent, 1980 to 1990. Average commute time for Marin County workers decreased by 1.0 percent between 1980 and 1990. Contra Costa County claims the longest average commute trip length for their resident commuters at 29.3 minutes per average one-way commute trip. The shortest average commute trip lengths are in Napa County at 21.4 minutes per

one-way commute in 1990.

A comparative (1980 vs 1990) frequency distribution of commuters by travel time to work is shown in Table 17. The travel time groups in this table are: 0 - 9 minutes, 10 - 19 minutes, 20 - 29 minutes, 30 - 44 minutes, 45 - 59 minutes, and 60 minutes or longer. The values shown (commuters) exclude those who work-at-home, but include those who walk or bicycle to work.

The largest travel time group, by region and by county, for both 1980 and 1990, is the 10-to-19 minutes category. Regionally, 31.1 percent of all commuters in 1980 and 29.7 percent of all commuters in 1990 commuted between 10 and 19 minutes to work (one way, home-to-work).

The share of regional commuters travelling 0 to 29 minutes from home-to-work declined between 1980 and 1990 from 64.7 percent of all commuters (1980) to 61.4 percent of all commuters (1990). This represents a 16.0 percent growth (1980 to 1990) in commuting in the 0 to 29 minutes category (1,576 to 1,829 thousand commuters). The share of regional commuters travelling 30 minutes or more to work increased from 35.3 percent of all commuters in 1980 to 38.6 percent of all commuters in 1990. This is a 34.0 percent increase in the number of 30 minute-or-more commuters between 1980 and 1990 (859 thousand to 1,151 thousand commuters).

The fastest growing commute time group, 1980 to 1990, is the 60 minutes-or-more category. In 1980, 7.1 percent of Bay Area commuters (172 thousand) travelled 60 minutes or more from home-to-work. By 1990, this had increased to 8.1 percent of all Bay Area commuters (243 thousand commuters) a 41.2 percent increase in this ultra-long commute group.

By county, Contra Costa County, in 1980, had the largest share of commuters travelling 60 minutes or more to work (11.5 percent of Contra Costa County resident workers). In 1990, Solano County claimed title with the largest share of commuter travelling 60 minutes plus, at 14.8 percent of all Solano County resident workers. This represents a tripling in the number of Solano County commuters travelling 60+ minutes to work between 1980 and 1990 (7.2 to 22.8 thousand).

At the other end of the commuting spectrum, only 6.1 percent of Santa Clara County resident workers commuted more than 60 minutes from home-to-work in 1990. Also, one-in-four Napa County commuters travel less than 10 minutes to

work (24.8 percent of Napa commuters in 1980 and 24.0 percent of Napa commuters in 1990).

F. Time of Departure to Work.

Time of departure to work was a question first asked in the 1990 Census. Results were grouped into 14 categories, representing half-hour detail during the A.M. peak period (5:00 AM to 9:00 AM), and grouped into hour or multi-hour categories for the remainder of the 24 hour day. Summary data is shown in Table 18.

The region-wide peak hour for work trip departure is 7:00 - 8:00 AM, according to the 1990 Census, with 30.6 percent of all commuters departing for work during this hour. This compares to 30.1 percent of all commuters departing for work (7:00 - 8:00 AM) according to the 1981 MTC Household Travel Survey. (This 1990 Census result was unexpected/surprising given a presumption that the peak period has "expanded" (i.e., "spreading of the peak period") over the past ten years. It was expected that the share of commuters starting travel in the peak hour would decline, whereas it appears that the peak period has not spread. Time-of-day patterns in the 1981 MTC Household Travel Survey are virtually identical to time-of-day patterns shown in the 1990 Census).

Napa County and San Francisco County resident workers have later than regionally average peak hour of departure, starting at 7:30 AM rather than 7:00 AM. Solano County has the earliest peak departure hour (6:30 - 7:30 AM) compared to the other Bay Area counties. Also conspicuous are the large shares of commuters beginning their work travel between 6:00 and 6:30 AM in Contra Costa (10.0%) and Solano (11.4%) Counties.

V. Discussion – Why These Changes in Commute Travel?

At issue is – *why* have transit and carpool commuting shares declined over the past ten years. Four major themes can be addressed in terms of rationalizing declining transit and carpool commute shares:

- The dollars and cents of commuting costs (microeconomic);
- The dollars and cents of transportation investments (macroeconomic);
- The changing patterns of urban development (geographic);
- The changing patterns of household lifestyles (demographic).

Certainly, changes in auto operating costs, transit fares and bridge tolls can provide an excellent microeconomic perspective on the dollars and cents of commuting, 1980 to 1990. Another major perspective is the changes in transportation investment – both capital and operating – in real dollars, 1980 to 1990. A third major perspective is the relative urban and suburban growth patterns within the region. The fourth perspective is the changing lifestyle patterns of households, with higher income households owning more automobiles, higher labor force participation rates for both women and men, and increased average household sizes affecting daily travel patterns.

The third theme – changes in growth patterns – is the most difficult to precisely address given the absence of the final journey-to-work data from the 1990 Census. The final journey-to-work data (expected late 1992 and early 1993) will provide transportation planners and policy-makers with county-to-county, suburb-to-suburb, suburb-to-central city commuting pattern data by commute mode. This data will *probably* show relatively *fast* growth in the suburb-to-suburb commute market – which tends to be a low transit share market; and a relatively *slow* growth in the central city - to - central city and suburb - to - central city commute markets – which tend to be relatively high transit share markets. On a market by market basis, the transit shares may either be stable or even increasing; but given the shift in commute markets to a more typical suburban commute, regional average transit commute shares may inevitably decline.

The dollars and cents of commuting.

Significant to note in analyzing commuting costs is the declining cost of automobile travel, in real dollar terms. Gas prices have dropped by 35 percent in real dollar terms between 1980 and 1990. Fuel economy (in miles per gallon) has increased by 19 percent between 1980 and 1990. Auto operating costs (fuel costs per mile) have decreased by 45 percent in real dollar terms.

<u>Year</u>	<u>CPI</u>	<u>Gas Price</u> <u>Current \$</u>	<u>Gas Price</u> <u>1990 \$</u>	<u>Fuel</u> <u>Economy</u>	<u>Fuel Cost</u> <u>per Mile (90\$)</u>
1980	246.8	\$1.180	\$1.871	19.2	9.74 ¢/mile
1990	391.4	\$1.222	\$1.222	22.8	5.36 ¢/mile
% Δ	+ 58.5%	+ 3.6%	- 34.7%	+ 18.8%	- 45.0%

* CPI = Consumer Price Index, Bay Area Urban Consumer.

Transit fares, on the other hand, have typically kept pace with inflation. In 1980, the base fare on the three largest transit operators in the Bay Area – Muni, BART, and A.C.Transit – was 50¢ (in 1980 dollars). This is equivalent to 82¢ in 1990 dollars ($406.0 / 247.3 * 50¢ = 82¢$ 1990 Consumer Price Index / 1980 Consumer Price Index * 1980 Transit Fare). Base fare for these three operators in 1990 was either 80¢ (BART) or 85¢ (Muni and A.C.Transit).

Parking prices in downtown San Francisco, Oakland, San Jose and Berkeley have typically kept pace with inflation. Some downtown San Francisco parking garage rates have shown significant rate increases in the 1980s. For example, the large Sutter / Stockton garage near Union Square increased monthly parking rates from \$115 per month in 1980 to \$225 per month in 1990. This represents a 19 percent real increase in parking costs in the Union Square district, 1980 to 1990. The other extreme in San Francisco is represented by the even larger Fifth / Mission garage South of Market Street. The Fifth / Mission monthly parking rates increased from only 75 dollars per month in 1980 to 95 dollars per month in 1990. This represents a 23 percent real decrease in parking costs in this important South of Market district.

Bridge tolls, like regular auto operating costs, also declined in real dollar terms between 1980 and 1990. For example, the toll on the San Francisco / Oakland Bay Bridge in 1980 was 75¢; in 1990, \$1.00. The 1980 bridge toll, in 1990 dollars, is equivalent to \$1.23 (in 1990 dollars). This represents a 19 percent real decline in toll cost per vehicle between 1980 and 1990.

The dollars and cents of transportation investments

Operating assistance to Bay Area transit operators declined, in real dollar terms, between 1980 and 1990. In fiscal year 1980/81, \$157.9 million dollars of operating assistance was provided to Bay Area transit operators. This is equivalent to \$259.2 million in 1990 dollars, adjusting for inflation. In fiscal year 1990/91, \$250.1 million dollars of operating assistance was provided, 3.5 percent less per year than fiscal year 80/81. A real decline in federal transit operating assistance of 44 percent, 1980 to 1990, was partially offset by an 11 percent real increase in state transit operating assistance (primarily state sales tax and toll bridge revenues), as follows:

<u>Source</u>	<u>1980 (1980\$)</u>	<u>1980 (1990\$)</u>	<u>1990 (1990\$)</u>	<u>Percent Change, 1980-90</u>
Federal	\$40,834	\$67,308	\$37,436	-44%
State	\$117,071	\$192,200	\$212,676	+11%
Total	\$157,905	\$259,238	\$250,108	-3.5%

(values are in 1000s of dollars)

The Bay Area bus and rail transit fleet grew by approximately 11 percent between 1980 and 1990. This is in contrast to a 16 percent increase in Bay Area population, 1980 to 1990. The four largest bus operators (A.C. Transit, Muni, Santa Clara County Transit, and San Mateo County Transit) expanded from 2,221 total busses owned or leased in 1980, to 2,344 busses owned or leased in 1990, an increase of just 6 percent. The Bay Area trolleybus and cable car fleet remained steady at 343 trolleybuses and 43 cable cars; and the Bay Area light rail fleet expanded by 50 percent between 1980 and 1990, with San Francisco's Muni system adding 35 cars to their fleet of 180 light rail vehicles, and Santa Clara adding 50 new cars to the new LRT system in San Jose. BART expanded the heavy rail fleet by 31 percent, growing from 450 heavy rail vehicles in 1980 to 590 heavy rail vehicles by 1990.

The changing patterns of urban development

One of the principal rationalizations for the declining transit shares in the San Francisco Bay Area is the increasing suburbanization of Bay Area jobs and workers. For arguments sake, the Bay Area can be divided into an "urban core" and the "suburbs". Job and worker growth in the urban core and suburbs is then compared for the 1980 to 1990 time period.

The "urban core" is loosely defined as the City of San Francisco, Oakland, and

Berkeley (i.e., MTC superdistricts #1 - #4, #18, #19, see Figure A.1). The “suburbs” are defined as the rest of the region, including rural and unpopulated areas. The population of the Bay Area urban core in 1990 was 1,308.1 thousand; the suburbs, 4,715.5 thousand persons. The urban core is 2 percent of the Bay Area land mass (133 square miles); the suburbs comprise 98 percent of the region (7,045 of 7,178 square miles). Population density in the Bay Area urban core was 9,835 persons per square mile in 1990; in the Bay Area suburbs, 669 persons per square mile.

Growth in the number of resident workers, 1980 to 1990, was much faster in the Bay Area suburbs in contrast to the Bay Area urban core. Urban core workers rose from 580 thousand workers in 1980 to 658 thousand workers in 1990, a 13 percent growth rate. The number of suburban resident workers increased from 1,937 thousand workers in 1980 to 2,454 thousand workers in 1990, a 27 percent growth rate. This means that 87 out of 100 new workers to the Bay Area, 1980 to 1990, lived in the Bay Area suburbs.

Growth in Bay Area jobs between 1980 and 1990 was also much faster in the suburbs than in the urban core. In 1980, 33 percent of all regional jobs (846 thousand out of 2,538 thousand) were located in the urban core of San Francisco, Oakland, and Berkeley. By 1990, this share had declined to 29 percent of Bay Area jobs in the urban core (905 out of 3,114 thousand jobs).

Jobs in the urban core increased by 7 percent between 1980 and 1990 (846 to 905 thousand jobs). Jobs in the suburbs increased by 31 percent between 1980 and 1990 (1,692 to 2,209 thousand). Ninety percent of the new jobs to the Bay Area, 1980 to 1990, were located in the Bay Area suburbs.

Transit shares are typically much higher in areas with high employment density. Employment density in the Bay Area urban core is approximately 41 to 43 jobs per commercial / industrial acre; in the Bay Area suburbs, density is approximately 13 to 14 jobs per acre. Employment density in greater downtown San Francisco exceeds 200 jobs per acre. According to the 1980 Census, 84 percent of the Bay Area transit commuters (232 thousand out of 277 thousand) worked in the Bay Area urban core. This contrasts to 33 percent of the Bay Area total jobs in 1980 located in the urban core.

The changing patterns of household demographics

Probably the two most important demographic changes affecting travel behavior in the Bay Area were the real increase in household income and the rapid growth in vehicle ownership, 1980 to 1990. (These subjects are covered in earlier sections of this working paper.) Other significant demographic shifts which have affected travel behavior over the past ten years include: higher labor force participation rates among women, increased average household size and increased average family size, increase in college enrollments, and increase in the number of very large (6+) households.

The number of female employed residents in the Bay Area grew from 1,108 thousand workers in 1980 to 1,418 thousand workers in 1990, a growth of 28 percent. In comparison, the number of male employed residents in the Bay Area grew from 1,446 thousand workers in 1980 to 1,734 thousand workers by 1990, a growth rate of 20 percent (a 23 percent combined growth rate). Females comprised 43 percent of the Bay Area workforce in 1980; by 1990, this had increased to 45 percent. In 1980, 54.7 percent of all females age 16-or-over were employed (1,108 thousand out of 2,026 thousand); by 1990, 58.6 percent were employed (1,418 thousand out of 2,422 thousand). A higher share of males age 16-or-over are employed residents, actually *decreasing* from 76.5 percent of all males in 1980 (1,446 out of 1,891 thousand), to 73.5 percent of all males by 1990 (1,734 thousand out of 2,358 thousand). Of the 597 thousand new workers added to the Bay Area employed labor force between 1980 and 1990, 52 percent were female (310 thousand out of 597 thousand).

Analysts may be tempted to blame the increase of women in the labor force for the decline in transit and carpooling shares. On the other hand, data from the 1980 Census journey-to-work data suggests the opposite: that female workers were more inclined to take transit or carpool to work than were male workers:

- The 1980 Census showed that 52 percent of Bay Area transit commuters were female (144 thousand female out of 277 thousand total), compared to 43 percent of all Bay Area commuters (1,061 thousand female out of 2,458 thousand total);
- 13.5 percent of female commuters commuted by transit in 1980; 9.6 percent of male commuters commuted by transit in 1990 (11.3% overall);
- 17.4 percent of female commuters were carpoolers in 1980 (184 thousand); 15.5 percent of male commuters were carpoolers in 1980 (217 thousand out of 1,397 thousand total male commuters) (16.3% overall);
- 60.6 percent of female commuters drove alone to work in 1980 (643

thousand); 65.1 percent of male commuters drove alone to work in 1980 (909 thousand) (63.2% overall)

Data from the 1990 Census Transportation Planning Package (CTPP), available late fall, 1992, will provide the 1990 counterpart to these 1980 commute characteristics by the gender of worker. Perhaps female workers are now more like male workers in terms of commute mode? Perhaps male workers are even more likely to drive alone as opposed to female workers?

Changes in household and family characteristics which warrant note are:

- The number of Bay Area households increased by 14 percent between 1980 and 1990, from 1,971 thousand to 2,246 thousand households;
- Bay Area average household size increased from 2.567 in 1980 to 2.613 by 1990;
- The number of Bay Area one-person households increased by just 11 percent, 1980 to 1990, from 528 thousand to 584 thousand households;
- The number of Bay Area households with six-or-more persons, on the other hand, increased by 28 percent between 1980 and 1990, from 87 thousand to 111 thousand households;
- Average family size (excluding non-relatives) in the Bay Area increased from 3.17 persons per family in 1980 to 3.18 persons per family in 1990;
- Bay Area non-family households increased by 15 percent between 1980 and 1990 (673 to 777 thousand); family households increased by 13 percent (1,301 to 1,474 thousand); (A "family household" is a group of related individuals living together);
- Married couple families (with own children less than 18 years of age) in the Bay Area increased from 509 thousand to 537 thousand families, an increase of just 6 percent;
- Married couple families (no children) in the Bay Area increased from 542 thousand to 618 thousand families, an increase of 14 percent, 1980 to 1990;
- Single parent (male head) families with children (<18) increased from 24 thousand to 35 thousand families, an increase of 45 percent;
- Single parent (female head) families with children (<18) increased from 124.0 thousand to 124.4 thousand, an increase of just 0.3 percent;
- Other single spouse families (no children, but other relatives) increased by 55 percent, from 103 thousand families in 1980, to 160 thousand families by 1990.

Changes in school enrollment patterns in the Bay Area between 1980 and 1990 provides a certain insight into how travel behavior might be affected:

- School enrollment in the Bay Area increased by 10 percent from 1980 to 1990, from 1,464 thousand to 1,615 thousand persons enrolled; This compares to a 16 percent increased in total population in the Bay Area, 1980 to 1990 (5,180 to 6,024 thousand persons);
- Pre-primary school enrollments in the Bay Area decreased by 17 percent between 1980 and 1990, from 134 thousand children to 111 thousand;
- Primary and secondary school enrollments increased by just 0.2 percent between 1980 and 1990, from 911.1 thousand to 912.6 thousand;
- College enrollments increased by 41 percent, 1980 to 1990, from 419 thousand persons to 591 persons enrolled.

These demographic changes and shifts are some of the indicators which may explain changes and shifts in travel behavior, especially commute behavior. Further analysis of data from the 1990 Census Transportation Planning Package (CTPP) and the 1990 MTC Household Travel Survey will perhaps provide a clearer picture of demographic patterns as they affect travel patterns.

VI. The Bay Area and the United States – A Comparison

A recent report published by the Federal Highway Administration allows for comparison of national versus Bay Area trends in transportation-related characteristics, derived from the 1980 and 1990 Censuses. This report, *New Perspectives in Commuting*, by Alan Pisarski (July 1992), is available from the MTC or the Federal Highway Administration.

The basic conclusion from this review is that changes in the Bay Area pretty much mirror the changes in the rest of the United States. This section discusses the similarities and differences between Bay Area changes and national changes.

Demographic Changes:

- U.S. population increased by 9.7 percent between 1980 and 1990; Bay Area population, by 16.3 percent;
- Average household size decreased in the U.S. from 2.75 persons per household in 1980 to 2.63 persons per household in 1990; in contrast, Bay Area average household size *increased* from an average of 2.57 persons per household in 1980 to 2.61 persons per household by 1990;
- The number of U.S. workers increased by 19.1 percent, 1980 to 1990; Bay Area worker growth was 23.6 percent in the 1980s;
- Workers per household increased in the United States from 1.20 in 1980 to 1.25 by 1990; in the Bay Area, from 1.30 workers/household in 1980 to 1.40 by 1990;
- Vehicle ownership in the United States increased by 17.4 percent in the 1980s; in the Bay Area, vehicle ownership increased by 19.1 percent;
- Vehicle ownership increased nationally from 1.61 to 1.66 vehicles per households (1980 to 1990); Bay Area vehicle ownership increased from 1.68 vehicles per households in 1980 to 1.76 vehicles per household by 1990;
- Vehicles per worker decreased in the U.S. from 1.34 in 1980, to 1.32 by 1990; in the Bay Area, vehicles per worker also decreased from 1.32 vehicles/worker in 1980 to 1.27 vehicles/worker by 1990.

Commute Time Changes:

- The average commute time in the U.S. increased by 42 seconds between 1980 and 1990, from 21.7 minutes per one-way commute to 22.4 minutes; Bay Area average commute time increased by 78 seconds (1.3 minutes) between 1980 and 1990, from 24.3 to 25.6 minutes;
- The share of national commuters travelling greater than 45 minutes from home to work increased from 11.6 percent in 1980 to 12.5 percent by 1990; Bay Area share of commuters with 45 minute-or-longer commutes also increased, from 14.8 percent of all commuters in 1980 to 16.9 percent by 1990.

Commute Mode Changes:

The following table compares the commute mode shares for the United States and the Bay Area, for 1980 and 1990:

	<u>United States</u>		<u>Bay Area</u>	
	<u>1980</u>	<u>1990</u>	<u>1980</u>	<u>1990</u>
Drive Alone	64.4%	73.2%	62.8%	68.2%
Carpool	19.7%	13.4%	16.3%	13.0%
Transit	6.4%	5.3%	11.4%	9.5%
Walk	5.6%	3.9%	4.4%	3.6%
At Home	2.3%	3.0%	1.9%	3.4%
Other	1.6%	1.2%	3.2%	2.3%
Total	100.0%	100.0%	100.0%	100.0%

- The number of transit commuters *declined* in the United States by over 105 thousand commuters (from 6,175 to 6,060 thousand transit commuters); the number of transit commuters in the Bay Area *increased* by 10 thousand commuters (from 283 to 293 thousand transit commuters);
- The number of national carpool commuters *declined* by over 3,687 thousand commuters, 1980 to 1990; Carpool commuting in the Bay Area also declined by nearly five thousand commuters, 1980 to 1990.

Table 1
 Growth in Employed Residents – 1980 - 1990
 (1980 and 1990 Decennial Censuses)

County of Residence	<u>Employed Residents</u>			<u>Total Households</u>			<u>Employed per Household</u>		
	1980	1990	% Δ	1980	1990	% Δ	1980	1990	% Δ
San Francisco	348,292	391,292	12.3%	298,956	305,584	2.2%	1.165	1.280	9.9%
San Mateo	314,275	353,626	12.5%	225,201	241,914	7.4%	1.396	1.462	4.7%
Santa Clara	666,642	812,345	21.9%	458,519	520,180	13.4%	1.454	1.562	7.4%
Alameda	522,118	648,461	24.2%	426,092	479,518	12.5%	1.225	1.352	10.4%
Contra Costa	307,627	409,351	33.1%	241,534	300,288	24.3%	1.274	1.363	7.0%
Solano	102,725	162,219	57.9%	80,426	113,429	41.0%	1.277	1.430	12.0%
Napa	43,197	52,683	22.0%	36,624	41,312	12.8%	1.179	1.275	8.1%
Sonoma	131,141	194,387	48.2%	114,474	149,011	30.2%	1.146	1.305	13.9%
Marin	118,569	127,579	7.6%	88,723	95,006	7.1%	1.336	1.343	0.5%
Region	2,554,586	3,151,943	23.4%	1,970,549	2,246,242	14.0%	1.296	1.403	8.2%

County of Residence	<u>Employed Residents</u>			<u>Total Population</u>			<u>Employed Share of Pop.</u>		
	1980	1990	% Δ	1980	1990	% Δ	1980	1990	% Δ
San Francisco	348,292	391,292	12.3%	678,974	723,959	6.6%	51.3%	54.0%	5.4%
San Mateo	314,275	353,626	12.5%	587,329	649,623	10.6%	53.5%	54.4%	1.7%
Santa Clara	666,642	812,345	21.9%	1,295,071	1,497,577	15.6%	51.5%	54.2%	5.4%
Alameda	522,118	648,461	24.2%	1,105,379	1,279,182	15.7%	47.2%	50.7%	7.3%
Contra Costa	307,627	409,351	33.1%	656,380	803,732	22.4%	46.9%	50.9%	8.7%
Solano	102,725	162,219	57.9%	235,203	340,421	44.7%	43.7%	47.7%	9.1%
Napa	43,197	52,683	22.0%	99,199	110,765	11.7%	43.5%	47.6%	9.2%
Sonoma	131,141	194,387	48.2%	299,681	388,222	29.5%	43.8%	50.1%	14.4%
Marin	118,569	127,579	7.6%	222,568	230,096	3.4%	53.3%	55.4%	4.1%
Region	2,554,586	3,151,943	23.4%	5,179,784	6,023,577	16.3%	49.3%	52.3%	6.1%

Table 2
Distribution of Households by Household Income – 1990
1990 Decennial Census, Summary Tape File 3A

Income Range	San Francisco	% of Total	San Mateo	% of Total	Santa Clara	% of Total	Alameda	% of Total	Contra Costa	% of Total
Less Than \$5,000	15,528	5.1%	7,146	2.9%	12,299	2.4%	19,171	4.0%	7,962	2.6%
\$5,000 - \$9,999	28,581	9.3%	9,897	4.1%	22,750	4.4%	36,875	7.7%	16,218	5.4%
\$10,000 - \$12,499	11,956	3.9%	5,385	2.2%	12,109	2.3%	16,794	3.5%	8,399	2.8%
\$12,500 - \$14,999	10,703	3.5%	5,016	2.1%	11,004	2.1%	14,879	3.1%	7,325	2.4%
\$15,000 - \$17,499	11,467	3.7%	6,269	2.6%	12,673	2.4%	17,431	3.6%	8,380	2.8%
\$17,500 - \$19,999	10,939	3.6%	5,349	2.2%	11,826	2.3%	14,762	3.1%	7,838	2.6%
\$20,000 - \$22,499	12,790	4.2%	7,662	3.2%	15,713	3.0%	19,613	4.1%	9,501	3.2%
\$22,500 - \$24,999	10,982	3.6%	6,495	2.7%	13,257	2.5%	15,616	3.3%	7,805	2.8%
\$25,000 - \$27,499	13,370	4.4%	8,241	3.4%	16,720	3.2%	18,787	3.9%	10,223	3.4%
\$27,500 - \$29,999	9,943	3.2%	7,249	3.0%	13,033	2.5%	14,670	3.1%	8,425	2.8%
\$30,000 - \$32,499	13,347	4.4%	9,384	3.9%	19,545	3.7%	20,087	4.2%	11,403	3.8%
\$32,500 - \$34,999	9,266	3.0%	7,155	3.0%	14,872	2.8%	13,886	2.9%	8,020	2.7%
\$35,000 - \$37,499	11,004	3.6%	8,318	3.4%	17,900	3.4%	17,231	3.6%	10,339	3.4%
\$37,500 - \$39,999	8,393	2.7%	7,023	2.9%	13,643	2.6%	13,474	2.8%	8,177	2.7%
\$40,000 - \$42,499	10,825	3.5%	9,173	3.8%	19,795	3.8%	17,452	3.6%	11,892	3.9%
\$42,500 - \$44,499	7,424	2.4%	6,692	2.8%	13,796	2.6%	12,566	2.6%	8,285	2.8%
\$44,500 - \$47,499	8,260	2.7%	8,213	3.4%	16,723	3.2%	14,687	3.1%	10,043	3.3%
\$47,500 - \$49,999	6,780	2.2%	6,318	2.6%	13,657	2.6%	12,009	2.5%	7,712	2.6%
\$50,000 - \$54,999	13,700	4.5%	13,746	5.7%	30,664	5.9%	25,457	5.3%	17,524	5.8%
\$55,000 - \$59,999	11,298	3.7%	11,815	4.9%	26,150	5.0%	20,793	4.3%	15,081	5.0%
\$60,000 - \$74,999	25,538	8.3%	29,341	12.1%	67,778	13.0%	49,439	10.3%	36,334	12.1%
\$75,000 - \$99,999	21,165	6.9%	27,580	11.4%	66,624	12.8%	42,156	8.8%	33,245	11.0%
\$100,000 - \$124,999	9,384	3.1%	12,606	5.2%	29,869	5.7%	16,505	3.4%	14,436	4.8%
\$125,000 - \$149,999	4,404	1.4%	5,627	2.3%	12,708	2.4%	6,433	1.3%	6,443	2.1%
\$150,000 or more	8,937	2.9%	10,648	4.4%	16,932	3.2%	9,306	1.9%	10,077	3.3%
Total Households	305,984	100.0%	242,348	100.0%	522,040	100.0%	480,079	100.0%	301,087	100.0%
Mean Income	\$45,644		\$59,521		\$57,913		\$45,995		\$55,033	
Median Income	\$33,414		\$46,437		\$48,115		\$37,544		\$45,087	

Less than \$30,000	136,259	44.5%	68,709	28.4%	141,384	27.1%	188,598	39.3%	92,076	30.6%
\$30,000 - \$59,999	100,297	32.8%	87,837	36.2%	186,745	35.8%	167,642	34.9%	108,476	36.0%
More than \$60,000	69,428	22.7%	85,802	35.4%	193,911	37.1%	123,839	25.8%	100,535	33.4%

Less than \$22,500	101,964	33.3%	46,724	19.3%	98,374	18.8%	139,525	29.1%	65,623	21.8%
\$22,500 - \$42,499	87,130	28.5%	63,038	26.0%	128,765	24.7%	131,203	27.3%	76,284	25.3%
\$42,500 - \$74,999	73,000	23.9%	76,125	31.4%	168,768	32.3%	134,951	28.1%	94,979	31.5%
More than \$75,000	43,890	14.3%	56,461	23.3%	126,133	24.2%	74,400	15.5%	64,201	21.3%

Table 2 (continued)

Distribution of Households by Household Income – 1990
1990 Decennial Census, Summary Tape File 3A

Income Range	Solano	% of Total	Napa	% of Total	Sonoma	% of Total	Marin	% of Total	Region	% of Total
Less Than \$5,000	2,998	2.6%	1,068	2.6%	3,837	2.6%	1,954	2.1%	71,963	3.2%
\$5,000 - \$9,999	6,565	5.8%	2,793	6.8%	10,705	7.2%	4,031	4.2%	138,415	6.1%
\$10,000 - \$12,499	3,601	3.2%	1,671	4.1%	5,411	3.6%	2,521	2.6%	67,847	3.0%
\$12,500 - \$14,999	3,370	3.0%	1,479	3.6%	4,833	3.2%	2,001	2.1%	60,610	2.7%
\$15,000 - \$17,499	4,117	3.6%	1,458	3.5%	6,149	4.1%	2,629	2.8%	70,573	3.1%
\$17,500 - \$19,999	3,602	3.2%	1,584	3.8%	4,932	3.3%	2,451	2.6%	63,283	2.8%
\$20,000 - \$22,499	4,160	3.7%	1,861	4.5%	6,703	4.5%	3,045	3.2%	81,048	3.6%
\$22,500 - \$24,999	3,763	3.3%	1,415	3.4%	5,347	3.6%	2,617	2.7%	67,297	3.0%
\$25,000 - \$27,499	4,485	3.9%	1,594	3.9%	6,503	4.4%	2,906	3.1%	82,829	3.7%
\$27,500 - \$29,999	3,628	3.2%	1,279	3.1%	5,124	3.4%	2,611	2.7%	65,962	2.9%
\$30,000 - \$32,499	5,022	4.4%	1,775	4.3%	6,727	4.5%	3,703	3.9%	90,993	4.0%
\$32,500 - \$34,999	3,805	3.3%	1,371	3.3%	5,185	3.5%	2,383	2.5%	65,943	2.9%
\$35,000 - \$37,499	5,189	4.6%	1,755	4.3%	6,225	4.2%	3,282	3.4%	81,243	3.6%
\$37,500 - \$39,999	3,895	3.4%	1,354	3.3%	4,786	3.2%	2,206	2.3%	62,951	2.8%
\$40,000 - \$42,499	5,223	4.6%	1,643	4.0%	6,255	4.2%	3,214	3.4%	85,472	3.8%
\$42,500 - \$44,499	3,453	3.0%	1,174	2.9%	4,288	2.9%	2,432	2.6%	60,110	2.7%
\$44,500 - \$47,499	4,009	3.5%	1,327	3.2%	4,763	3.2%	2,804	2.9%	70,829	3.1%
\$47,500 - \$49,999	3,503	3.1%	964	2.3%	3,782	2.5%	1,979	2.1%	56,704	2.5%
\$50,000 - \$54,999	7,313	6.4%	2,134	5.2%	8,931	6.0%	4,972	5.2%	124,441	5.5%
\$55,000 - \$59,999	5,732	5.0%	2,032	4.9%	6,504	4.4%	3,855	4.0%	103,260	4.6%
\$60,000 - \$74,999	13,030	11.5%	4,007	9.7%	14,547	9.7%	10,800	11.3%	250,814	11.1%
\$75,000 - \$99,999	8,872	7.8%	2,887	7.0%	10,136	6.8%	10,672	11.2%	223,337	9.9%
\$100,000 - \$124,999	2,558	2.3%	1,104	2.7%	3,746	2.5%	5,879	6.2%	96,087	4.3%
\$125,000 - \$149,999	836	0.7%	402	1.0%	1,326	0.9%	2,903	3.0%	41,082	1.8%
\$150,000 or more	908	0.8%	1,054	2.6%	2,637	1.8%	7,383	7.8%	67,882	3.0%
Total Households	113,637	100.0%	41,185	100.0%	149,382	100.0%	95,233	100.0%	2,250,975	100.0%
Mean Income	\$43,598		\$46,522		\$44,331		\$67,828		\$52,082	
Median Income	\$39,113		\$36,773		\$36,299		\$48,544		\$41,595	

Less than \$30000	40,289	35.5%	16,202	39.3%	59,544	39.9%	26,766	28.1%	769,827	34.2%
\$30,000 - \$59,999	47,144	41.5%	15,529	37.7%	57,446	38.5%	30,830	32.4%	801,946	35.6%
More than \$60,000	26,204	23.1%	9,454	23.0%	32,392	21.7%	37,637	39.5%	679,202	30.2%

Less than \$22500	28,413	25.0%	11,914	28.9%	42,570	28.5%	18,632	19.6%	553,739	24.6%
\$22,500 - \$42,499	35,010	30.8%	12,186	29.6%	46,152	30.9%	22,922	24.1%	602,690	26.8%
\$42,500 - \$74,999	37,040	32.6%	11,638	28.3%	42,815	28.7%	26,842	28.2%	666,158	29.6%
More than \$75,000	13,174	11.6%	5,447	13.2%	17,845	11.9%	26,837	28.2%	428,388	19.0%

Table 3

Cumulative Distribution of Households by Household Income – 1990
1990 Decennial Census, Summary Tape File 3A

Income Range	San Francisco	% of Total	San Mateo	% of Total	Santa Clara	% of Total	Alameda	% of Total	Contra Costa	% of Total
Less Than \$5,000	15,528	5.1%	7,146	2.9%	12,299	2.4%	19,171	4.0%	7,962	2.6%
\$5,000 - \$9,999	44,109	14.4%	17,043	7.0%	35,049	6.7%	56,046	11.7%	24,180	8.0%
\$10,000 - \$12,499	56,065	18.3%	22,428	9.3%	47,158	9.0%	72,840	15.2%	32,579	10.8%
\$12,500 - \$14,999	66,768	21.8%	27,444	11.3%	58,162	11.1%	87,719	18.3%	39,904	13.3%
\$15,000 - \$17,499	78,235	25.6%	33,713	13.9%	70,835	13.6%	105,150	21.9%	48,284	16.0%
\$17,500 - \$19,999	89,174	29.1%	39,062	16.1%	82,661	15.8%	119,912	25.0%	56,122	18.6%
\$20,000 - \$22,499	101,964	33.3%	46,724	19.3%	98,374	18.8%	139,525	29.1%	65,623	21.8%
\$22,500 - \$24,999	112,946	36.9%	53,219	22.0%	111,631	21.4%	155,141	32.3%	73,428	24.4%
\$25,000 - \$27,499	126,316	41.3%	61,460	25.4%	128,351	24.6%	173,928	36.2%	83,651	27.8%
\$27,500 - \$29,999	136,259	44.5%	68,709	28.4%	141,384	27.1%	188,598	39.3%	92,076	30.6%
\$30,000 - \$32,499	149,606	48.9%	78,093	32.2%	160,929	30.8%	208,685	43.5%	103,479	34.4%
\$32,500 - \$34,999	158,872	51.9%	85,248	35.2%	175,801	33.7%	222,571	46.4%	111,499	37.0%
\$35,000 - \$37,499	169,876	55.5%	93,566	38.6%	193,701	37.1%	239,802	50.0%	121,838	40.5%
\$37,500 - \$39,999	178,269	58.3%	100,589	41.5%	207,344	39.7%	253,276	52.8%	130,015	43.2%
\$40,000 - \$42,499	189,094	61.8%	109,762	45.3%	227,139	43.5%	270,728	56.4%	141,907	47.1%
\$42,500 - \$44,499	196,518	64.2%	116,454	48.1%	240,935	46.2%	283,294	59.0%	150,192	49.9%
\$44,500 - \$47,499	204,778	66.9%	124,667	51.4%	257,658	49.4%	297,981	62.1%	160,235	53.2%
\$47,500 - \$49,999	211,558	69.1%	130,985	54.0%	271,315	52.0%	309,990	64.6%	167,947	55.8%
\$50,000 - \$54,999	225,258	73.6%	144,731	59.7%	301,979	57.8%	335,447	69.9%	185,471	61.6%
\$55,000 - \$59,999	236,556	77.3%	156,546	64.6%	328,129	62.9%	356,240	74.2%	200,552	66.6%
\$60,000 - \$74,999	262,094	85.7%	185,887	76.7%	395,907	75.8%	405,679	84.5%	236,886	78.7%
\$75,000 - \$99,999	283,259	92.6%	213,467	88.1%	462,531	88.6%	447,835	93.3%	270,131	89.7%
\$100,000 - \$124,999	292,643	95.6%	226,073	93.3%	492,400	94.3%	464,340	96.7%	284,567	94.5%
\$125,000 - \$149,999	297,047	97.1%	231,700	95.6%	505,108	96.8%	470,773	98.1%	291,010	96.7%
\$150,000 or more	305,984	100.0%	242,348	100.0%	522,040	100.0%	480,079	100.0%	301,087	100.0%
Total Households	305,984	100.0%	242,348	100.0%	522,040	100.0%	480,079	100.0%	301,087	100.0%

Table 3 (continued)
Cumulative Distribution of Households by Household Income – 1990
1990 Decennial Census, Summary Tape File 3A

Income Range	Solano	% of Total	Napa	% of Total	Sonoma	% of Total	Marin	% of Total	Region	% of Total
Less Than \$5,000	2,998	2.6%	1,068	2.6%	3,837	2.6%	1,954	2.1%	71,963	3.2%
\$5,000 - \$9,999	9,563	8.4%	3,861	9.4%	14,542	9.7%	5,985	6.3%	210,378	9.3%
\$10,000 - \$12,499	13,164	11.6%	5,532	13.4%	19,953	13.4%	8,506	8.9%	278,225	12.4%
\$12,500 - \$14,999	16,534	14.5%	7,011	17.0%	24,786	16.6%	10,507	11.0%	338,835	15.1%
\$15,000 - \$17,499	20,651	18.2%	8,469	20.6%	30,935	20.7%	13,136	13.8%	409,408	18.2%
\$17,500 - \$19,999	24,253	21.3%	10,053	24.4%	35,867	24.0%	15,587	16.4%	472,691	21.0%
\$20,000 - \$22,499	28,413	25.0%	11,914	28.9%	42,570	28.5%	18,632	19.6%	553,739	24.6%
\$22,500 - \$24,999	32,176	28.3%	13,329	32.4%	47,917	32.1%	21,249	22.3%	621,036	27.6%
\$25,000 - \$27,499	36,661	32.3%	14,923	36.2%	54,420	36.4%	24,155	25.4%	703,865	31.3%
\$27,500 - \$29,999	40,289	35.5%	16,202	39.3%	59,544	39.9%	26,766	28.1%	769,827	34.2%
\$30,000 - \$32,499	45,311	39.9%	17,977	43.6%	66,271	44.4%	30,469	32.0%	860,820	38.2%
\$32,500 - \$34,999	49,116	43.2%	19,348	47.0%	71,456	47.8%	32,852	34.5%	926,763	41.2%
\$35,000 - \$37,499	54,305	47.8%	21,103	51.2%	77,681	52.0%	36,134	37.9%	1,008,006	44.8%
\$37,500 - \$39,999	58,200	51.2%	22,457	54.5%	82,467	55.2%	38,340	40.3%	1,070,957	47.6%
\$40,000 - \$42,499	63,423	55.8%	24,100	58.5%	88,722	59.4%	41,554	43.6%	1,156,429	51.4%
\$42,500 - \$44,499	66,876	58.9%	25,274	61.4%	93,010	62.3%	43,986	46.2%	1,216,539	54.0%
\$44,500 - \$47,499	70,885	62.4%	26,601	64.6%	97,773	65.5%	46,790	49.1%	1,287,368	57.2%
\$47,500 - \$49,999	74,388	65.5%	27,565	66.9%	101,555	68.0%	48,769	51.2%	1,344,072	59.7%
\$50,000 - \$54,999	81,701	71.9%	29,699	72.1%	110,486	74.0%	53,741	56.4%	1,468,513	65.2%
\$55,000 - \$59,999	87,433	76.9%	31,731	77.0%	116,990	78.3%	57,596	60.5%	1,571,773	69.8%
\$60,000 - \$74,999	100,463	88.4%	35,738	86.8%	131,537	88.1%	68,396	71.8%	1,822,587	81.0%
\$75,000 - \$99,999	109,335	96.2%	38,625	93.8%	141,673	94.8%	79,068	83.0%	2,045,924	90.9%
\$100,000 - \$124,999	111,893	98.5%	39,729	96.5%	145,419	97.3%	84,947	89.2%	2,142,011	95.2%
\$125,000 - \$149,999	112,729	99.2%	40,131	97.4%	146,745	98.2%	87,850	92.2%	2,183,093	97.0%
\$150,000 or more	113,637	100.0%	41,185	100.0%	149,382	100.0%	95,233	100.0%	2,250,975	100.0%
Total Households	113,637	100.0%	41,185	100.0%	149,382	100.0%	95,233	100.0%	2,250,975	100.0%

Table 4

Change in Mean Household Income – 1980 - 1990
 1980 and 1990 Census – Summary Tape File 3A

	1980 Census (1979 \$)	1980 Census (1989 \$)	1990 Census (1989 \$)	Percent Real Change, 1980 - 1990
San Francisco	\$20,617	\$37,324	\$45,644	22.3%
San Mateo	\$27,663	\$50,080	\$59,521	18.9%
Santa Clara	\$26,617	\$48,186	\$57,913	20.2%
Alameda	\$21,838	\$39,534	\$45,995	16.3%
Contra Costa	\$26,535	\$48,038	\$55,033	14.6%
Solano	\$21,151	\$38,291	\$43,598	13.9%
Napa	\$22,647	\$40,999	\$46,522	13.5%
Sonoma	\$21,050	\$38,108	\$44,331	16.3%
Marin	\$30,774	\$55,712	\$67,828	21.7%
Region	\$24,350	\$44,082	\$52,082	18.1%

*Note: 1979 constant dollars are converted into 1989 constant dollars using the ratio of 1989 Bay Area Consumer Price Index for All Items, Urban Consumer (CPI-U), to the 1979 Bay Area CPI-U:
 $388.5 \div 214.6 = 1.8103$. This means that \$1.00 in 1979 is equivalent in buying power to \$1.81 in 1989.*

Table 5

Residential Mobility – Place-of-Residence in 1975 and 1985 - Persons 5 Years and Over
1980 & 1990 Decennial Censuses

County of Residence		Same House	Different House, Same County	Different House, County in Calif.	In States Outside Calif.	Lived Abroad	Total Population (Age 5+)
San Francisco	1975-80	310,662	162,469	56,455	66,992	52,473	649,051
	% of Tot	47.9%	25.0%	8.7%	10.3%	8.1%	100.0%
	1985-90	331,346	169,920	70,231	57,871	59,321	688,689
	% of Tot	48.1%	24.7%	10.2%	8.4%	8.6%	100.0%
San Mateo	1980	283,600	123,554	86,911	34,805	24,713	553,583
	% of Tot	51.2%	22.3%	15.7%	6.3%	4.5%	100.0%
	1990	316,818	139,428	85,034	32,004	32,392	605,676
	% of Tot	52.3%	23.0%	14.0%	5.3%	5.3%	100.0%
Santa Clara	1980	533,278	374,786	131,034	112,809	55,518	1,207,425
	% of Tot	44.2%	31.0%	10.9%	9.3%	4.6%	100.0%
	1990	640,431	438,192	119,282	102,964	85,581	1,386,450
	% of Tot	46.2%	31.6%	8.6%	7.4%	6.2%	100.0%
Alameda	1980	492,565	305,667	119,417	79,584	36,338	1,033,571
	% of Tot	47.7%	29.6%	11.6%	7.7%	3.5%	100.0%
	1990	558,296	333,682	151,517	85,466	54,755	1,183,716
	% of Tot	47.2%	28.2%	12.8%	7.2%	4.6%	100.0%
Contra Costa	1980	283,997	163,648	104,124	47,562	13,727	613,058
	% of Tot	46.3%	26.7%	17.0%	7.8%	2.2%	100.0%
	1990	353,580	187,693	123,520	54,866	23,841	743,500
	% of Tot	47.6%	25.2%	16.6%	7.4%	3.2%	100.0%
Solano	1980	76,031	53,041	49,285	27,393	9,827	215,577
	% of Tot	35.3%	24.6%	22.9%	12.7%	4.6%	100.0%
	1990	124,447	74,795	68,162	31,738	11,627	310,769
	% of Tot	40.0%	24.1%	21.9%	10.2%	3.7%	100.0%
Napa	1980	43,125	23,451	18,823	6,058	2,118	93,575
	% of Tot	46.1%	25.1%	20.1%	6.5%	2.3%	100.0%
	1990	48,936	26,770	18,252	6,101	3,290	103,349
	% of Tot	47.4%	25.9%	17.7%	5.9%	3.2%	100.0%
Sonoma	1980	120,195	77,450	58,915	18,766	4,239	279,565
	% of Tot	43.0%	27.7%	21.1%	6.7%	1.5%	100.0%
	1990	159,924	106,876	63,456	21,873	7,726	359,855
	% of Tot	44.4%	29.7%	17.6%	6.1%	2.1%	100.0%
Marin	1980	102,689	45,183	35,656	21,693	6,768	211,989
	% of Tot	48.4%	21.3%	16.8%	10.2%	3.2%	100.0%
	1990	106,441	50,550	34,315	17,433	7,748	216,487
	% of Tot	49.2%	23.4%	15.9%	8.1%	3.6%	100.0%
Region	1980	2,246,142	1,329,249	660,620	415,662	205,721	4,857,394
	% of Tot	46.2%	27.4%	13.6%	8.6%	4.2%	100.0%
	1990	2,640,219	1,527,906	733,769	410,316	286,281	5,598,491
	% of Tot	47.2%	27.3%	13.1%	7.3%	5.1%	100.0%

Sources: U.S. Bureau of the Census, Decennial Censuses – 1980, 1990, Summary Tape File 3A

Table 6
Distribution of Households by Vehicle Ownership – 1960 - 1990
1960, 1970, 1980 & 1990 Decennial Censuses

County		No Vehicle	% of Total	One Vehicle	% of Total	Two Vehicles	% of Total	Three-Plus Vehicles	% of Total	Total Households
San Francisco	1960	122,847	42.1%	136,689	46.8%	27,263	9.3%	5,171	1.8%	291,970
	1970	116,816	39.6%	133,633	45.3%	38,371	13.0%	6,354	2.2%	295,174
	1980	103,462	34.6%	127,131	42.5%	51,869	17.4%	16,494	5.5%	298,956
	1990	93,806	30.7%	127,271	41.6%	64,379	21.1%	20,128	6.6%	305,584
San Mateo	1960	10,723	7.9%	75,382	55.8%	43,807	32.4%	5,259	3.9%	135,171
	1970	13,871	7.5%	83,622	45.2%	71,859	38.8%	15,676	8.5%	185,028
	1980	14,338	6.4%	82,065	36.4%	82,946	36.8%	45,852	20.4%	225,201
	1990	14,683	6.1%	78,396	32.4%	93,527	38.7%	55,308	22.9%	241,914
Santa Clara	1960	16,216	8.8%	99,770	54.0%	59,952	32.4%	8,976	4.9%	184,914
	1970	22,224	6.9%	129,631	40.2%	139,888	43.3%	31,039	9.6%	322,782
	1980	25,213	5.5%	146,886	32.0%	171,326	37.4%	115,094	25.1%	458,519
	1990	27,326	5.3%	147,789	28.4%	210,612	40.5%	134,453	25.8%	520,180
Alameda	1960	54,827	18.6%	162,752	55.1%	68,373	23.1%	9,415	3.2%	295,367
	1970	60,997	16.7%	170,535	46.7%	111,578	30.6%	21,983	6.0%	365,093
	1980	60,955	14.3%	161,652	37.9%	129,851	30.5%	73,634	17.3%	426,092
	1990	58,711	12.2%	165,050	34.4%	165,918	34.6%	89,839	18.7%	479,518
Contra Costa	1960	10,262	8.7%	63,862	54.2%	38,885	33.0%	4,849	4.1%	117,858
	1970	13,116	7.6%	72,007	41.6%	71,768	41.5%	16,060	9.3%	172,951
	1980	16,271	6.7%	77,498	32.1%	91,406	37.8%	56,359	23.3%	241,534
	1990	19,129	6.4%	87,817	29.2%	123,621	41.2%	69,721	23.2%	300,288
Solano	1960	4,260	11.1%	24,238	63.0%	8,776	22.8%	1,179	3.1%	38,453
	1970	4,505	8.8%	25,602	50.1%	17,588	34.4%	3,425	6.7%	51,120
	1980	5,398	6.7%	26,915	33.5%	29,148	36.2%	18,965	23.6%	80,426
	1990	6,516	5.7%	32,190	28.4%	47,208	41.6%	27,515	24.3%	113,429
Napa	1960	1,819	9.6%	11,029	58.5%	5,465	29.0%	554	2.9%	18,867
	1970	2,550	10.2%	10,938	43.6%	9,313	37.1%	2,297	9.2%	25,098
	1980	2,564	7.0%	11,744	32.1%	12,374	33.8%	9,942	27.1%	36,624
	1990	2,741	6.6%	12,780	30.9%	16,366	39.6%	9,425	22.8%	41,312
Sonoma	1960	6,832	14.5%	25,732	54.5%	12,767	27.1%	1,860	3.9%	47,191
	1970	7,189	10.6%	32,183	47.4%	23,094	34.0%	5,395	8.0%	67,861
	1980	7,725	6.7%	38,997	34.1%	39,039	34.1%	28,713	25.1%	114,474
	1990	8,741	5.9%	46,602	31.3%	59,959	40.2%	33,709	22.6%	149,011
Marin	1960	3,967	9.0%	24,877	56.3%	14,083	31.9%	1,268	2.9%	44,195
	1970	4,619	6.9%	29,647	44.1%	27,780	41.3%	5,220	7.8%	67,266
	1980	4,819	5.4%	32,722	36.9%	34,063	38.4%	17,119	19.3%	88,723
	1990	4,879	5.1%	31,404	33.1%	39,311	41.4%	19,412	20.4%	95,006
Region	1960	231,753	19.7%	624,331	53.2%	279,371	23.8%	38,531	3.3%	1,173,986
	1970	245,887	15.8%	687,798	44.3%	511,239	32.9%	107,449	6.9%	1,552,373
	1980	240,745	12.2%	705,610	35.8%	642,022	32.6%	382,172	19.4%	1,970,549
	1990	236,532	10.5%	729,299	32.5%	820,901	36.5%	459,510	20.5%	2,246,242

Sources: U.S. Bureau of the Census, Decennial Censuses – 1960-1990

Table 7
Vehicles Owned – by County – 1960-1990
 1960, 1970, 1980 & 1990 Decennial Censuses

County		Average 3+ V/HH	Total Vehicles	Total Households	Vehicles per Household	Total Population	Vehicles per Capita
San Francisco	1960	3.340	208,486	291,970	0.71	740,316	0.28
	1970	3.340	231,597	295,174	0.78	715,674	0.32
	1980	3.343	286,008	298,956	0.96	678,974	0.42
	1990	3.342	323,304	305,584	1.06	723,959	0.45
San Mateo	1960	3.350	180,614	135,171	1.34	444,387	0.41
	1970	3.350	279,855	185,028	1.51	557,361	0.50
	1980	3.398	403,762	225,201	1.79	587,329	0.69
	1990	3.438	455,620	241,914	1.88	649,623	0.70
Santa Clara	1960	3.450	250,641	184,914	1.36	642,315	0.39
	1970	3.450	516,492	322,782	1.60	1,065,313	0.48
	1980	3.560	899,273	458,519	1.96	1,295,071	0.69
	1990	3.486	1,037,689	520,180	1.99	1,497,577	0.69
Alameda	1960	3.450	331,980	295,367	1.12	908,209	0.37
	1970	3.450	469,532	365,093	1.29	1,071,446	0.44
	1980	3.454	675,686	426,092	1.59	1,105,379	0.61
	1990	3.422	804,327	479,518	1.68	1,279,182	0.63
Contra Costa	1960	3.450	158,361	117,858	1.34	409,030	0.39
	1970	3.450	270,950	172,951	1.57	556,116	0.49
	1980	3.460	455,312	241,534	1.89	656,380	0.69
	1990	3.411	572,878	300,288	1.91	803,732	0.71
Solano	1960	3.300	45,681	38,453	1.19	134,597	0.34
	1970	3.300	72,081	51,120	1.41	171,989	0.42
	1980	3.312	148,023	80,426	1.84	235,203	0.63
	1990	3.402	220,208	113,429	1.94	340,421	0.65
Napa	1960	3.450	23,870	18,867	1.27	65,890	0.36
	1970	3.450	37,489	25,098	1.49	79,140	0.47
	1980	3.467	70,961	36,624	1.94	99,199	0.72
	1990	3.490	78,407	41,312	1.90	110,765	0.71
Sonoma	1960	3.450	57,683	47,191	1.22	147,375	0.39
	1970	3.450	96,984	67,861	1.43	204,885	0.47
	1980	3.544	218,834	114,474	1.91	299,681	0.73
	1990	3.439	282,450	149,011	1.90	388,222	0.73
Marin	1960	3.400	57,354	44,195	1.30	146,820	0.39
	1970	3.400	102,955	67,266	1.53	208,652	0.49
	1980	3.417	159,344	88,723	1.80	222,568	0.72
	1990	3.365	175,343	95,006	1.85	230,096	0.76
Region	1960	3.415	1,314,670	1,173,986	1.12	3,638,939	0.36
	1970	3.422	2,077,935	1,552,373	1.34	4,630,576	0.45
	1980	3.474	3,317,203	1,970,549	1.68	5,179,784	0.64
	1990	3.437	3,950,226	2,246,242	1.76	6,023,577	0.66

Sources: U.S. Bureau of the Census, Decennial Censuses – 1960-1990
 MTC estimates of averages for 3+ vehicle household category for 1960, 1970 and 1980.

Table 8
Vehicles Available by Race of Householder
(1990 Census, Summary Tape File 3A)

County of Residence	White Householders	Black Householders	Amer.Indian Householders	Asian/PackIndnr Householders	Other Race Householders	Total Households	Hispanic Householders
San Francisco	No Vehicles	12,816 42.2%	438 38.2%	20,565 32.3%	3,771 32.5%	93,806 30.7%	9,538 32.1%
	One-or-more Vehicles	142,629 71.7%	708 61.8%	43,016 67.7%	7,848 67.5%	211,778 69.3%	20,189 67.9%
	Total Households	198,845 100.0%	1,146 100.0%	63,581 100.0%	11,619 100.0%	305,584 100.0%	29,717 100.0%
San Mateo	No Vehicles	11,381 6.0%	88 7.9%	1,229 4.1%	611 7.1%	14,683 6.1%	2,059 7.2%
	One-or-more Vehicles	179,548 94.0%	1,028 92.1%	28,674 95.9%	8,004 92.9%	227,231 93.9%	26,371 92.8%
	Total Households	190,929 100.0%	1,116 100.0%	29,903 100.0%	8,615 100.0%	241,914 100.0%	28,430 100.0%
Santa Clara	No Vehicles	19,068 4.8%	1,403 8.9%	3,796 5.5%	2,715 8.2%	27,326 5.3%	5,954 7.9%
	One-or-more Vehicles	377,345 95.2%	16,456 91.1%	65,749 94.5%	30,537 91.8%	429,854 94.7%	69,447 92.1%
	Total Households	396,413 100.0%	18,059 100.0%	69,545 100.0%	33,252 100.0%	520,180 100.0%	75,401 100.0%
Alameda	No Vehicles	26,320 8.4%	22,257 26.2%	524 18.1%	2,759 12.1%	58,711 12.2%	5,630 11.5%
	One-or-more Vehicles	286,811 91.6%	62,706 73.8%	48,870 87.7%	20,045 87.9%	420,807 87.8%	43,539 88.5%
	Total Households	313,131 100.0%	84,963 100.0%	55,721 100.0%	22,804 100.0%	479,518 100.0%	49,169 100.0%
Contra Costa	No Vehicles	12,301 5.1%	4,969 19.6%	179 9.5%	786 8.3%	19,129 6.4%	1,878 7.7%
	One-or-more Vehicles	230,254 94.9%	20,338 80.4%	20,183 95.8%	8,670 91.7%	281,159 93.6%	22,648 92.3%
	Total Households	242,555 100.0%	25,307 100.0%	21,077 100.0%	9,456 100.0%	300,288 100.0%	24,526 100.0%
Solano	No Vehicles	4,214 5.1%	1,540 10.9%	417 4.0%	275 5.6%	6,516 5.7%	697 6.4%
	One-or-more Vehicles	78,543 94.9%	12,579 89.1%	9,983 96.0%	4,673 94.4%	106,913 94.3%	10,209 93.6%
	Total Households	82,757 100.0%	14,119 100.0%	10,400 100.0%	4,948 100.0%	113,429 100.0%	10,906 100.0%
Napa	No Vehicles	2,578 6.7%	5 2.0%	13 5.8%	103 7.1%	2,741 6.6%	275 7.6%
	One-or-more Vehicles	35,906 93.3%	247 98.0%	211 94.2%	1,338 92.9%	38,571 93.4%	3,358 92.4%
	Total Households	38,484 100.0%	252 100.0%	224 100.0%	1,441 100.0%	41,312 100.0%	3,633 100.0%
Sonoma	No Vehicles	8,074 5.8%	153 9.5%	224 7.7%	193 5.5%	8,741 5.9%	600 6.2%
	One-or-more Vehicles	131,675 94.2%	1,459 90.5%	2,685 92.3%	3,295 94.5%	140,270 94.1%	9,146 93.8%
	Total Households	139,749 100.0%	1,612 100.0%	2,909 100.0%	3,488 100.0%	149,011 100.0%	9,746 100.0%
Marin	No Vehicles	4,280 4.8%	303 17.3%	23 7.4%	115 7.5%	4,879 5.1%	374 8.6%
	One-or-more Vehicles	84,264 95.2%	1,450 82.7%	286 92.6%	1,476 92.5%	90,127 94.9%	3,959 91.4%
	Total Households	88,544 100.0%	1,753 100.0%	309 100.0%	1,541 100.0%	95,006 100.0%	4,333 100.0%
Region	No Vehicles	144,432 8.5%	45,020 24.0%	1,576 12.2%	11,328 11.7%	236,532 10.5%	26,995 11.4%
	One-or-more Vehicles	1,546,975 91.5%	142,789 76.0%	11,380 87.8%	85,836 88.3%	2,009,710 89.5%	208,866 88.6%
	Total Households	1,691,407 100.0%	187,809 100.0%	12,956 100.0%	97,164 100.0%	2,246,242 100.0%	235,861 100.0%

Table 9

Percent of Workers Working in County of Residence

Residence County	1960	1970	1980	1990
San Francisco	93.1%	88.3%	84.4%	80.4%
San Mateo	56.3%	57.7%	58.2%	58.1%
Santa Clara	89.2%	88.1%	92.5%	89.2%
Alameda	87.1%	81.0%	75.3%	70.5%
Contra Costa	65.7%	60.2%	58.2%	59.8%
Solano	88.2%	81.7%	73.1%	61.4%
Napa	81.0%	68.9%	76.2%	74.5%
Sonoma	89.8%	82.8%	83.5%	81.8%
Marin	61.4%	49.2%	55.0%	58.6%
Region	82.0%	76.7%	76.2%	73.6%

Table 10

Growth in Intra-County versus Inter-County Commuting
1980 and 1990 Decennial Censuses

County of Residence	Year	Intra-County Commuters	Inter-County Commuters	Total Commuters
San Francisco	1980	284,297	49,465	333,762
	1990	307,400	74,909	382,309
	% Δ	8.1%	51.4%	14.5%
San Mateo	1980	180,143	123,515	303,658
	1990	201,506	145,053	346,559
	% Δ	11.9%	17.4%	14.1%
Santa Clara	1980	597,764	53,594	651,358
	1990	710,365	86,240	796,605
	% Δ	18.8%	60.9%	22.3%
Alameda	1980	387,411	119,813	507,224
	1990	446,162	187,029	633,191
	% Δ	15.2%	56.1%	24.8%
Contra Costa	1980	177,015	122,381	299,396
	1990	239,908	161,265	401,173
	% Δ	35.5%	31.8%	34.0%
Solano	1980	72,142	28,961	101,103
	1990	97,477	61,236	158,713
	% Δ	35.1%	111.4%	57.0%
Napa	1980	31,808	10,320	42,128
	1990	38,431	13,142	51,573
	% Δ	20.8%	27.3%	22.4%
Sonoma	1980	105,957	22,604	128,561
	1990	155,802	34,629	190,431
	% Δ	47.0%	53.2%	48.1%
Marin	1980	65,830	49,945	115,775
	1990	73,235	51,845	125,080
	% Δ	11.2%	3.8%	8.0%
Region	1980	1,902,367	580,598	2,482,965
	1990	2,270,286	815,348	3,085,634
	% Δ	19.3%	40.4%	24.3%

Table 11. Bay Area County-to-County Commute Patterns - 1960-1990

	COUNTY OF WORK										TOTAL
	S.F.	S.M.	S.C.	A.L.	C.C.	SOLANO	NAPA	SONOMA	MARIN	FISHWATER	
San Francisco	1960	322,000	12,000	1,000	6,000	1,000	0	0	2,000	2,000	346,000
	1970	283,164	18,349	2,972	7,874	1,129	362	120	1,419	2,300	317,786
	1980	294,297	3,721	15,181	2,430	349	349	355	3,332	2,640	333,762
	1990	307,400***	6,279	22,136	4,382	473	25	501	5,621	3,498	382,400***
San Mateo	1960	59,000	92,000	14,000	2,000	0	0	0	0	2,000	176,000
	1970	67,773	139,653	20,933	3,640	474	145	50	335	2,300	235,764
	1980	78,706	180,143	33,853	6,686	738	181	115	643	2,536	303,638
	1990	79,022***	201,506***	50,989	8,702	1,188	266	145	1,406***	3,306	346,550***
O Santa Clara	1960	7,000	13,000	207,000	2,000	0	0	0	0	232,000	232,000
	1970	9,052	28,064	354,078	6,476	507	121	75	214	5,209	403,824
	1980	7,436	27,676	597,764	9,907	795	64	149	30	7,461	651,358
	1990	10,169	44,640	710,365***	15,614	1,549	93	278	55	13,747	796,405***
T Alameda	1960	25,000	3,000	4,000	8,000	1,000	0	0	1,000	4,000	36,000
	1970	35,197	11,378	10,684	342,111	13,016	235	137	647	4,300	418,713
	1980	50,895	15,175	27,474	387,411	18,913	1351	72	788	4,576	507,274
	1990	62,438	23,652	48,578	446,162***	35,521***	136	475	1,979	7,362	633,191***
F Contra Costa	1960	10,000	0	0	35,000	94,000	2,000	0	0	2,000	143,000
	1970	20,491	2,895	1,540	48,640	177,645	253	169	996	2,700	207,481
	1980	38,236	3,972	2,389	68,511	177,015	343	175	1,667	3,430	299,396
	1990	51,796	6,347	4,317	83,525***	239,908***	664	264	3,048	6,011	401,173***
I Solano	1960	1,000	0	0	1,000	1,000	1,000	0	1,000	2,600	51,000
	1970	1,249	359	357	1,430	3,246	2,958	146	507	2,600	64,257
	1980	4,371	827	252	4,817	20,242	2,846	412	964	4,230	101,103
	1990	7,578	1,691	582	9,626	25,313	5,692***	797	2,229	7,298	158,713***
N Napa	1960	0	0	0	0	0	4,000	17,000	0	0	21,000
	1970	458	119	80	796	914	4,853	485	170	300	28,170
	1980	549	149	95	880	1,126	5,572	31,808	1,124	610	42,178
	1990	683	219	158	1,263	1,998	5,805***	1,562	357	1,097	51,573***
Sonoma	1960	1,000	0	0	0	1,000	0	44,000	2,000	1,000	49,000
	1970	3,652	268	58	364	357	470	55,760	4,313	1,400	67,404
	1980	6,489	883	100	876	647	895	105,957	9,594	1,932	128,561
	1990	8,266	1,327	170	1,214	1,175	2,252	155,802***	16,304	2,700	190,431***
Marin	1960	19,000	0	0	1,000	1,000	0	0	35,000	1,000	57,000
	1970	31,191	2,201	719	2,317	935	115	631	42,998	1,200	82,585
	1980	37,662	2,591	400	3,526	556	104	2,079	65,830	1,472	115,275
	1990	33,690***	3,239***	681	5,191	2,832	761	2,964	73,235***	2,298	125,000***
Elsewhere	1960	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1970	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1980	2,345	1,554	16,745	4,507	1,184	2,511	876	179	300	30,282
	1990	2,600	1,900	21,200	5,600	3,400	500	1,200	300	NA	38,400
Total	1960	444,000	127,000	357,000	105,000	53,000	18,000	44,000	41,000	16,000	1,431,000
	1970	452,197	203,282	391,371	413,663	148,223	24,489	57,998	51,594	22,300	1,875,784
	1980	510,968	254,363	682,793	502,752	214,645	87,308	36,898	83,593	28,877	2,513,747
	1990	568,661	316,513	843,319	599,035	315,566	116,707	163,888	104,534	47,917	3,085,634***

Sources: 1960, 1970 & 1980 from U.S. Census, adapted by MTC and BATS
 1990 commuter estimates from MTC, based on 1990 Census STE/A and ABAC's Projections '90
 *** 1990 commuter numbers from 1990 Census Summary Tape File 3A (STF3A)
 5/12/92

Table 12

Workers by Means of Transportation to Work – 1980 - 1990
1980 & 1990 Decennial Censuses

County of Residence		Drive Alone	Carpool	Transit	Walk	Other	Work at Home	Total Workers
San Francisco	1980	113,724	42,028	129,683	36,823	6,829	7,540	336,627
	% of Tot	33.8%	12.5%	38.5%	10.9%	2.0%	2.2%	100.0%
	1990	147,187	43,925	128,160	37,611	10,947	14,479	382,309
	% of Tot	38.5%	11.5%	33.5%	9.8%	2.9%	3.8%	100.0%
San Mateo	1980	210,558	50,577	24,137	8,093	7,561	4,907	305,833
	% of Tot	68.8%	16.5%	7.9%	2.6%	2.5%	1.6%	100.0%
	1990	251,218	45,104	25,788	8,858	6,059	9,532	346,559
	% of Tot	72.5%	13.0%	7.4%	2.6%	1.7%	2.8%	100.0%
Santa Clara	1980	470,652	107,639	20,115	16,757	24,104	10,310	649,577
	% of Tot	72.5%	16.6%	3.1%	2.6%	3.7%	1.6%	100.0%
	1990	618,995	98,163	23,727	16,509	19,225	19,986	796,605
	% of Tot	77.7%	12.3%	3.0%	2.1%	2.4%	2.5%	100.0%
Alameda	1980	311,329	80,722	63,326	24,059	17,247	8,767	505,450
	% of Tot	61.6%	16.0%	12.5%	4.8%	3.4%	1.7%	100.0%
	1990	422,775	80,773	63,138	25,136	16,483	24,886	633,191
	% of Tot	66.8%	12.8%	10.0%	4.0%	2.6%	3.9%	100.0%
Contra Costa	1980	199,707	53,165	25,794	6,851	7,603	5,634	298,754
	% of Tot	66.8%	17.8%	8.6%	2.3%	2.5%	1.9%	100.0%
	1990	286,754	55,488	31,344	7,371	6,563	13,653	401,173
	% of Tot	71.5%	13.8%	7.8%	1.8%	1.6%	3.4%	100.0%
Solano	1980	65,650	23,232	1,879	4,298	3,599	1,353	100,011
	% of Tot	65.6%	23.2%	1.9%	4.3%	3.6%	1.4%	100.0%
	1990	114,233	29,320	3,604	3,916	3,460	4,180	158,713
	% of Tot	72.0%	18.5%	2.3%	2.5%	2.2%	2.6%	100.0%
Napa	1980	28,655	7,186	750	2,484	1,531	1,084	41,690
	% of Tot	68.7%	17.2%	1.8%	6.0%	3.7%	2.6%	100.0%
	1990	38,766	6,605	570	2,619	1,121	1,892	51,573
	% of Tot	75.2%	12.8%	1.1%	5.1%	2.2%	3.7%	100.0%
Sonoma	1980	88,591	20,829	4,093	5,422	4,391	4,358	127,684
	% of Tot	69.4%	16.3%	3.2%	4.2%	3.4%	3.4%	100.0%
	1990	142,074	24,760	4,351	6,209	3,721	9,316	190,431
	% of Tot	74.6%	13.0%	2.3%	3.3%	2.0%	4.9%	100.0%
Marin	1980	69,783	19,349	13,500	4,220	5,022	3,814	115,688
	% of Tot	60.3%	16.7%	11.7%	3.6%	4.3%	3.3%	100.0%
	1990	82,714	15,535	12,899	3,739	2,031	8,162	125,080
	% of Tot	66.1%	12.4%	10.3%	3.0%	1.6%	6.5%	100.0%
Region	1980	1,558,649	404,727	283,277	109,007	77,887	47,767	2,481,314
	% of Tot	62.8%	16.3%	11.4%	4.4%	3.1%	1.9%	100.0%
	1990	2,104,716	399,673	293,581	111,968	69,610	106,086	3,085,634
	% of Tot	68.2%	13.0%	9.5%	3.6%	2.3%	3.4%	100.0%

Sources: U.S. Bureau of the Census, Decennial Censuses – 1980, 1990,
Summary Tape File 3A

Table 13
Workers by Means of Transportation to Work – 1960 - 1990
1960, 1970, 1980 & 1990 Decennial Censuses

County		In-Vehicle	% of Total	Transit Passenger	% of Total	Walk	% of Total	Other	% of Total	Work at Home	% of Total	Total Workers
San Francisco	1960	142,046	42.2%	133,128	39.6%	38,985	11.6%	4,990	1.5%	17,447	5.2%	336,596
	1970	156,124	49.0%	113,604	35.6%	35,443	11.1%	5,032	1.6%	8,538	2.7%	318,741
	1980	155,752	46.3%	129,683	38.5%	36,823	10.9%	6,829	2.0%	7,540	2.2%	336,627
	1990	191,112	50.0%	128,160	33.5%	37,611	9.8%	10,947	2.9%	14,479	3.8%	382,309
San Mateo	1960	135,059	78.2%	20,649	12.0%	8,289	4.8%	4,238	2.5%	4,422	2.6%	172,657
	1970	198,862	84.4%	17,986	7.6%	8,311	3.5%	6,045	2.6%	4,502	1.9%	235,706
	1980	261,135	85.4%	24,137	7.9%	8,093	2.6%	7,561	2.5%	4,907	1.6%	305,833
	1990	296,322	85.5%	25,788	7.4%	8,858	2.6%	6,059	1.7%	9,532	2.8%	346,559
Santa Clara	1960	187,544	82.3%	11,784	5.2%	12,261	5.4%	6,206	2.7%	10,188	4.5%	227,983
	1970	356,739	88.7%	9,221	2.3%	14,836	3.7%	11,734	2.9%	9,700	2.4%	402,230
	1980	578,291	89.0%	20,115	3.1%	16,757	2.6%	24,104	3.7%	10,310	1.6%	649,577
	1990	717,158	90.0%	23,727	3.0%	16,509	2.1%	19,225	2.4%	19,986	2.5%	796,605
Alameda	1960	258,575	74.9%	36,702	10.6%	27,301	7.9%	6,457	1.9%	16,320	4.7%	345,355
	1970	327,846	78.3%	44,547	10.6%	24,844	5.9%	12,387	3.0%	8,912	2.1%	418,536
	1980	392,051	77.6%	63,326	12.5%	24,059	4.8%	17,247	3.4%	8,767	1.7%	505,450
	1990	503,548	79.5%	63,138	10.0%	25,136	4.0%	16,483	2.6%	24,886	3.9%	633,191
Contra Costa	1960	120,422	85.6%	6,284	4.5%	7,001	5.0%	3,207	2.3%	3,847	2.7%	140,761
	1970	179,112	86.4%	11,420	5.5%	7,013	3.4%	5,691	2.7%	4,121	2.0%	207,357
	1980	252,872	84.6%	25,794	8.6%	6,851	2.3%	7,603	2.5%	5,634	1.9%	298,754
	1990	342,242	85.3%	31,344	7.8%	7,371	1.8%	6,563	1.6%	13,653	3.4%	401,173
Solano	1960	38,467	78.5%	1,142	2.3%	4,826	9.8%	1,398	2.9%	3,182	6.5%	49,015
	1970	53,949	84.9%	1,647	2.6%	4,696	7.4%	2,037	3.2%	1,234	1.9%	63,563
	1980	88,882	88.9%	1,879	1.9%	4,298	4.3%	3,599	3.6%	1,353	1.4%	100,011
	1990	143,553	90.4%	3,604	2.3%	3,916	2.5%	3,460	2.2%	4,180	2.6%	158,713
Napa	1960	17,292	81.1%	254	1.2%	2,004	9.4%	497	2.3%	1,262	5.9%	21,309
	1970	24,288	84.9%	510	1.8%	2,246	7.8%	641	2.2%	928	3.2%	28,613
	1980	35,841	86.0%	750	1.8%	2,484	6.0%	1,531	3.7%	1,084	2.6%	41,690
	1990	45,371	88.0%	570	1.1%	2,619	5.1%	1,121	2.2%	1,892	3.7%	51,573
Sonoma	1960	36,920	76.3%	659	1.4%	4,138	8.6%	1,388	2.9%	5,269	10.9%	48,374
	1970	57,196	84.9%	1,225	1.8%	3,692	5.5%	2,580	3.8%	2,692	4.0%	67,385
	1980	109,420	85.7%	4,093	3.2%	5,422	4.2%	4,391	3.4%	4,358	3.4%	127,684
	1990	166,834	87.6%	4,351	2.3%	6,209	3.3%	3,721	2.0%	9,316	4.9%	190,431
Marin	1960	40,727	73.4%	5,159	9.3%	3,776	6.8%	1,607	2.9%	4,196	7.6%	55,465
	1970	66,590	80.9%	6,750	8.2%	3,225	3.9%	2,988	3.6%	2,780	3.4%	82,333
	1980	89,132	77.0%	13,500	11.7%	4,220	3.6%	5,022	4.3%	3,814	3.3%	115,688
	1990	98,249	78.5%	12,899	10.3%	3,739	3.0%	2,031	1.6%	8,162	6.5%	125,080
Region	1960	977,052	69.9%	215,761	15.4%	108,581	7.8%	29,988	2.1%	66,133	4.7%	1,397,515
	1970	1,420,706	77.9%	206,910	11.3%	104,306	5.7%	49,135	2.7%	43,407	2.4%	1,824,464
	1980	1,963,376	79.1%	283,277	11.4%	109,007	4.4%	77,887	3.1%	47,767	1.9%	2,481,314
	1990	2,504,389	81.2%	293,581	9.5%	111,968	3.6%	69,610	2.3%	106,086	3.4%	3,085,634

Sources: U.S. Bureau of the Census, Decennial Censuses – 1960-1990

Note: "In-Vehicle" includes auto, truck or van driver plus auto, truck or van passenger.

Table 14
In-Vehicle Commuters by Commute Vehicle Occupancy – 1980 - 1990
1980 & 1990 Decennial Censuses

County of Residence		Drive Alone	Carpool 2	Carpool 3	Carpool 4	Carpool 5+	Workers in Veh.	Commute Driver	Avg. Occup.
San Francisco	1980	113,724	29,925	7,062	2,746	2,295	155,752	132,014	1.180
	% of Tot	73.0%	19.2%	4.5%	1.8%	1.5%	100.0%		
	1990	147,187	32,881	6,717	2,285	2,042	191,112	166,693	1.146
	% of Tot	77.0%	17.2%	3.5%	1.2%	1.1%	100.0%		
San Mateo	1980	210,558	37,743	8,387	2,455	1,992	261,135	233,088	1.120
	% of Tot	80.6%	14.5%	3.2%	0.9%	0.8%	100.0%		
	1990	251,218	36,000	6,320	1,776	1,008	296,322	271,895	1.090
	% of Tot	84.8%	12.1%	2.1%	0.6%	0.3%	100.0%		
Santa Clara	1980	470,652	84,489	15,362	5,059	2,729	578,291	519,623	1.113
	% of Tot	81.4%	14.6%	2.7%	0.9%	0.5%	100.0%		
	1990	618,995	81,081	11,730	3,198	2,154	717,158	664,514	1.079
	% of Tot	86.3%	11.3%	1.6%	0.4%	0.3%	100.0%		
Alameda	1980	311,329	56,158	15,094	5,760	3,710	392,051	346,343	1.132
	% of Tot	79.4%	14.3%	3.9%	1.5%	0.9%	100.0%		
	1990	422,775	59,328	14,847	3,898	2,700	503,548	458,700	1.098
	% of Tot	84.0%	11.8%	2.9%	0.8%	0.5%	100.0%		
Contra Costa	1980	199,707	34,510	9,397	4,838	4,420	252,872	221,856	1.140
	% of Tot	79.0%	13.6%	3.7%	1.9%	1.7%	100.0%		
	1990	286,754	39,368	10,157	2,653	3,310	342,242	310,901	1.101
	% of Tot	83.8%	11.5%	3.0%	0.8%	1.0%	100.0%		
Solano	1980	65,650	13,512	5,078	2,497	2,145	88,882	74,991	1.185
	% of Tot	73.9%	15.2%	5.7%	2.8%	2.4%	100.0%		
	1990	114,233	19,478	4,790	1,777	3,275	143,553	126,422	1.136
	% of Tot	79.6%	13.6%	3.3%	1.2%	2.3%	100.0%		
Napa	1980	28,655	4,671	1,226	889	400	35,841	31,671	1.132
	% of Tot	80.0%	13.0%	3.4%	2.5%	1.1%	100.0%		
	1990	38,766	4,916	850	442	397	45,371	41,667	1.089
	% of Tot	85.4%	10.8%	1.9%	1.0%	0.9%	100.0%		
Sonoma	1980	88,591	14,465	3,402	1,470	1,492	109,420	97,512	1.122
	% of Tot	81.0%	13.2%	3.1%	1.3%	1.4%	100.0%		
	1990	142,074	19,012	3,734	945	1,069	166,834	153,195	1.089
	% of Tot	85.2%	11.4%	2.2%	0.6%	0.6%	100.0%		
Marin	1980	69,783	12,892	4,040	1,371	1,046	89,132	78,049	1.142
	% of Tot	78.3%	14.5%	4.5%	1.5%	1.2%	100.0%		
	1990	82,714	12,122	2,132	614	667	98,249	89,723	1.095
	% of Tot	84.2%	12.3%	2.2%	0.6%	0.7%	100.0%		
Region	1980	1,558,649	288,365	69,048	27,085	20,229	1,963,376	1,735,147	1.132
	% of Tot	79.4%	14.7%	3.5%	1.4%	1.0%	100.0%		
	1990	2,104,716	304,186	61,277	17,588	16,622	2,504,389	2,283,709	1.097
	% of Tot	84.0%	12.1%	2.4%	0.7%	0.7%	100.0%		

Sources: U.S. Bureau of the Census, Decennial Censuses – 1980, 1990

Table 15
Average Commute Vehicle Occupancy – 1970 - 1990
1970, 1980 & 1990 Decennial Censuses

County of Residence				% Change,
	1970	1980	1990	1980-90
San Francisco	1.180	1.180	1.146	-2.9%
San Mateo	1.129	1.120	1.090	-2.7%
Santa Clara	1.092	1.113	1.079	-3.1%
Alameda	1.133	1.132	1.098	-3.0%
Contra Costa	1.124	1.140	1.101	-3.4%
Solano	1.159	1.185	1.136	-4.1%
Napa	1.155	1.132	1.089	-3.8%
Sonoma	1.085	1.122	1.089	-2.9%
Marin	1.152	1.142	1.095	-4.1%
Region	1.126	1.132	1.097	-3.1%

Table 16
 Workers by Mean Travel Time to Work – 1980 - 1990
 1980 & 1990 Decennial Censuses

County of Residence	Mean Travel Time (minutes, one-way)		Percent Change
	1980	1990	
San Francisco	25.9	26.9	3.9%
San Mateo	22.8	24.0	5.3%
Santa Clara	22.8	23.3	2.2%
Alameda	24.6	25.8	4.9%
Contra Costa	27.2	29.3	7.7%
Solano	22.2	28.2	27.0%
Napa	19.7	21.4	8.6%
Sonoma	22.7	24.1	6.2%
Marin	28.7	28.4	-1.0%
Region	24.3	25.6	5.3%

*Note: Mean travel times are for all means of transportation, combined,
 excluding workers working at home.*

Table 17
Commuters by Trip Length (Minutes) to Work – 1980 - 1990
1980 & 1990 Decennial Censuses

County of Residence		Trip Length in Minutes						Total Travellers
		0 - 9	10 - 19	20 - 29	30 - 44	45 - 59	60 +	
San Francisco	1980	25,535	88,205	77,158	83,517	30,636	21,195	326,246
	% of Tot	7.8%	27.0%	23.7%	25.6%	9.4%	6.5%	100.0%
	1990	25,931	93,808	85,705	100,355	35,532	26,499	367,830
	% of Tot	7.0%	25.5%	23.3%	27.3%	9.7%	7.2%	100.0%
San Mateo	1980	35,581	100,266	68,042	61,773	17,855	15,291	298,808
	% of Tot	11.9%	33.6%	22.8%	20.7%	6.0%	5.1%	100.0%
	1990	37,943	108,751	71,049	71,414	27,327	20,543	337,027
	% of Tot	11.3%	32.3%	21.1%	21.2%	8.1%	6.1%	100.0%
Santa Clara	1980	78,569	207,461	158,206	126,061	38,897	31,624	640,818
	% of Tot	12.3%	32.4%	24.7%	19.7%	6.1%	4.9%	100.0%
	1990	83,668	245,348	192,605	166,178	50,322	38,498	776,619
	% of Tot	10.8%	31.6%	24.8%	21.4%	6.5%	5.0%	100.0%
Alameda	1980	58,417	155,278	100,877	106,888	42,294	34,733	498,487
	% of Tot	11.7%	31.1%	20.2%	21.4%	8.5%	7.0%	100.0%
	1990	65,394	181,768	114,047	138,669	61,702	46,725	608,305
	% of Tot	10.8%	29.9%	18.7%	22.8%	10.1%	7.7%	100.0%
Contra Costa	1980	36,189	83,431	53,667	57,732	28,947	33,778	293,744
	% of Tot	12.3%	28.4%	18.3%	19.7%	9.9%	11.5%	100.0%
	1990	42,399	102,278	62,459	83,078	44,734	52,572	387,520
	% of Tot	10.9%	26.4%	16.1%	21.4%	11.5%	13.6%	100.0%
Solano	1980	19,254	34,649	15,737	15,863	7,087	7,164	99,754
	% of Tot	19.3%	34.7%	15.8%	15.9%	7.1%	7.2%	100.0%
	1990	22,663	46,926	22,613	24,771	14,746	22,814	154,533
	% of Tot	14.7%	30.4%	14.6%	16.0%	9.5%	14.8%	100.0%
Napa	1980	10,154	15,441	5,078	5,763	2,014	2,481	40,931
	% of Tot	24.8%	37.7%	12.4%	14.1%	4.9%	6.1%	100.0%
	1990	11,914	17,359	6,425	7,238	2,878	3,867	49,681
	% of Tot	24.0%	34.9%	12.9%	14.6%	5.8%	7.8%	100.0%
Sonoma	1980	24,314	44,542	20,927	16,837	5,737	11,873	124,230
	% of Tot	19.6%	35.9%	16.8%	13.6%	4.6%	9.6%	100.0%
	1990	32,364	60,622	32,255	26,688	11,037	18,149	181,115
	% of Tot	17.9%	33.5%	17.8%	14.7%	6.1%	10.0%	100.0%
Marin	1980	14,489	28,122	16,569	23,779	15,102	13,761	111,822
	% of Tot	13.0%	25.1%	14.8%	21.3%	13.5%	12.3%	100.0%
	1990	14,735	29,210	18,396	26,995	14,433	13,149	116,918
	% of Tot	12.6%	25.0%	15.7%	23.1%	12.3%	11.2%	100.0%
Region	1980	302,502	757,395	516,261	498,213	188,569	171,900	2,434,840
	% of Tot	12.4%	31.1%	21.2%	20.5%	7.7%	7.1%	100.0%
	1990	337,011	886,070	605,554	645,386	262,711	242,816	2,979,548
	% of Tot	11.3%	29.7%	20.3%	21.7%	8.8%	8.1%	100.0%

Sources: U.S. Bureau of the Census, Decennial Censuses – 1980, 1990, Summary Tape File 3A

Table 18
Number of Workers by Time Leaving Home to go to Work – 1990
1990 Decennial Census

County of Residence	12:00 AM - 4:59 AM	5:00 - 5:29	5:30 - 5:59	6:00 - 6:29	6:30 - 6:59	7:00 - 7:29	7:30 - 8:00	8:00 - 8:29	8:30 - 8:59	9:00 - 9:59	10:00 - 10:59	11:00 - 11:59	12:00 - 3:59 PM	4:00 PM - 11:59 PM	Total Travellers
San Francisco	6,215 1.7%	5,438 1.5%	7,797 2.1%	19,389 5.3%	27,409 7.5%	56,379 15.3%	57,603 15.7%	62,267 16.9%	31,443 8.5%	29,650 8.1%	13,754 3.7%	5,803 1.6%	24,256 6.6%	20,427 5.6%	367,830 100.0%
San Mateo	6,995 2.1%	5,997 1.8%	10,634 3.2%	23,696 7.0%	34,016 10.1%	55,673 16.5%	54,643 16.2%	49,319 14.6%	21,946 6.5%	22,399 6.6%	8,619 2.6%	4,062 1.2%	21,379 6.3%	17,649 5.2%	337,027 100.0%
Santa Clara	16,075 2.1%	18,359 2.4%	34,140 4.4%	66,127 8.5%	80,515 10.4%	122,011 15.7%	117,482 15.1%	101,776 13.1%	51,033 6.6%	50,558 6.5%	17,807 2.3%	9,209 1.2%	50,486 6.5%	41,011 5.3%	776,619 100.0%
Alameda Contra Costa	15,646 2.6%	17,019 2.8%	26,824 4.4%	52,780 8.7%	61,060 10.0%	90,406 14.9%	89,380 14.7%	78,633 12.9%	36,239 6.0%	41,097 6.8%	16,857 2.8%	7,893 1.3%	40,459 6.7%	34,012 5.6%	608,305 100.0%
Costa Solano	10,666 2.8%	11,962 3.1%	18,655 4.8%	38,840 10.0%	44,733 11.5%	65,238 16.8%	54,906 14.2%	45,097 11.6%	19,806 5.1%	24,114 6.2%	9,005 2.3%	4,765 1.2%	20,558 5.3%	19,175 4.9%	387,520 100.0%
Solano	6,089 3.9%	7,980 5.2%	10,208 6.6%	17,687 11.4%	18,257 11.8%	22,833 14.8%	16,679 10.8%	12,701 8.2%	6,366 4.1%	6,700 4.3%	3,254 2.1%	2,032 1.3%	12,246 7.9%	11,501 7.4%	154,533 100.0%
Napa	1,380 2.8%	1,361 2.7%	2,111 4.2%	4,496 9.0%	5,028 10.1%	6,588 13.3%	7,900 15.9%	6,763 13.6%	2,773 5.6%	3,392 6.8%	1,320 2.7%	472 1.0%	3,306 6.7%	2,791 5.6%	49,681 100.0%
Sonoma	5,508 3.0%	6,119 3.4%	8,745 4.8%	13,724 7.6%	16,775 9.3%	26,399 14.6%	28,848 15.9%	23,376 12.9%	11,657 6.4%	11,593 6.4%	4,928 2.7%	2,241 1.2%	11,696 6.5%	9,506 5.2%	181,115 100.0%
Marin	2,298 2.0%	2,100 1.8%	3,457 3.0%	8,209 7.0%	11,071 9.5%	18,551 15.9%	17,612 15.1%	18,941 16.2%	9,307 8.0%	10,634 9.1%	4,210 3.6%	1,304 1.1%	4,958 4.2%	4,266 3.6%	116,918 100.0%
Region	70,872 2.4%	76,335 2.6%	122,571 4.1%	244,948 8.2%	298,864 10.0%	464,078 15.6%	445,053 14.9%	398,873 13.4%	190,570 6.4%	200,137 6.7%	79,754 2.7%	37,781 1.3%	189,344 6.4%	140,368 5.4%	2,979,548 100.0%

APPENDIX A

Travel and Mobility Characteristics MTC's 34 Superdistricts

APPENDIX A. Travel and Mobility Characteristics: MTC's 34 Superdistricts

Appendix A includes sixteen tables of transportation-related data items at the MTC 34 superdistrict and nine county level. Most of the tables compare 1980 Census results to 1990 Census data. Figure A-1 is a map of the MTC 34 superdistricts.

The MTC 34 superdistricts are convenient, intermediate geographic units for transportation analysis purposes. They are smaller than counties and are typically larger than cities and travel analysis zones. Superdistricts are nested on MTC's regional travel analysis zonal systems (including the 550, 651 and 700 zonal systems) and 1980 Census Tracts.

Employed Residents. Civilian and total employed residents and total employed residents per household, 1980 and 1990, is shown in Table A.1. The difference between civilian employed and total employed is the military labor force. Four of the thirty-four superdistricts showed a decline in workers per household between 1980 and 1990: #10 - Cupertino / Saratoga; #22 - Walnut Creek / Lamorinda; #32 - Novato; and #34 - Mill Valley / Sausalito. The Milpitas / East San Jose Superdistrict #12 showed the largest increase in workers/household between 1980 and 1990, increasing from 1.583 workers per household in 1980 to 1.808 workers per household in 1990. 1990 workers per household by superdistrict ranges from 1.042 in greater downtown San Francisco (#1) to 1.808 workers/household in East San Jose (#12).

Superdistrict #18 (Oakland / Alameda) is the largest MTC superdistrict with 164 thousand households and 200 thousand workers in 1990. The Northern Napa County superdistrict (#28) is the smallest with just over 13 thousand household and about 17 thousand workers. The superdistrict with the largest number of military employed is superdistrict #18, with 10.9 thousand military employed.

Mean Household Income. Average household income by MTC 34 superdistrict, 1980 and 1990 Censuses, is summarized in Table A.2. Mean 1990 household income ranges from \$34,854 in Superdistrict #1 (greater downtown San Francisco) to \$91,717 in Superdistrict #23 (Danville/San Ramon). The greatest "within county" difference in household income is Contra Costa County, ranging from \$42,954 in western Contra Costa (SD #20) to \$91,717 in the Danville San Ramon area.

All superdistricts showed real increases in mean household income, ranging from 4.6 percent real increase in Hayward / San Leandro (#17) to a 32.3 percent real increase in the greater Richmond District of San Francisco (superdistrict #2).

Vehicle Ownership. The number of households by vehicles available, and share of households by vehicles available, is shown in Tables A.3 and A.4. Vehicles per household is found in Table A.5.

Zero-auto household shares range from a low of 1.1 percent of Danville / San Ramon households (#23) to 61.2 percent of greater downtown San Francisco households (#1). Greater downtown San Francisco, with just 2.6 percent of the region's total households, contains 15.0 percent of the Bay Area zero auto-owning households. Fourteen of the thirty-four superdistricts showed an absolute decline in the number of zero-auto households between 1980 and 1990. The Milpitas / East San Jose superdistrict #12 showed the largest percent and absolute increase in zero auto households, growing from 2,892 zero auto households in 1980 to 3,964 zero auto households in 1990 (+37.1%).

The share of households owning three-or-more vehicles ranges from 1.5 percent of greater downtown San Francisco (#1) households to 33.7 percent of Gilroy / Morgan Hill (#14) and Danville / San Ramon (#23) households. The widest range within a county for three-plus vehicle owning households is Alameda County, ranging from 9.5 percent of Berkeley / Albany (#19) households to 30.0 percent of Livermore / Pleasanton (#15) households.

1990 Vehicles per household ranges from a low of 0.50 in greater downtown San Francisco (#1) to 2.29 in Danville / San Ramon (#23). Six of the region's superdistricts showed a decline in vehicles per household between 1980 and 1990:

- #10 - Cupertino / Saratoga (2.08 to 2.05, -1.5%);
- #14 - Gilroy / Morgan Hill (2.38 to 2.23, -6.3%);
- #16 - Fremont / Union City (2.17 to 2.12, -2.5%);
- #21 - Concord / Martinez (2.02 to 1.91, -5.8%);
- #27 - Napa / American Canyon (1.97 to 1.90, -3.7%);
- #29 - Petaluma / Rohnert Park (1.98 to 1.92, -3.2%); and
- #30 - Santa Rosa / Sebastopol (1.87 to 1.85, -0.9%).

Greater downtown San Francisco (#1) showed the greatest *percent* increase in vehicles per household between 1980 and 1990 (18.6%, increasing from 0.42 to 0.50 vehicles per household). Vallejo / Benicia, superdistrict #25, showed the greatest absolute increase in vehicles per household rate, increasing from 1.70 vehicles per household in 1980 to 1.85 vehicles per household in 1990 (+0.15 vehicles/HH).

Intra-County Commuting. Intra-county and inter-county commuting is detailed in Table A.6 by MTC 34 superdistrict. Intra-county commute shares range from a low of

44.9 percent of workers residing in western Contra Costa County (SD #20) to a high of 92.7 percent of workers residing in south San Jose (SD #13). On a region-wide basis, 73.6 percent of all workers work in their county of residence.

Workers by Means of Transportation to Work. Workers by means of transportation to work, 1980 to 1990, is shown in Table A.7. Modal shares based on Table A.7 data is provided in Table A.8. Data on "person commuter" mode (excluding walk, work at home and other) is included in Tables A.9 and A.10. The modal breakdowns shown in Tables A.9 and A.10 are the work trip travel modes used in travel demand forecasting activities at MTC.

Without exception, drive alone shares increased in all 34 superdistricts between 1980 and 1990. Year 1990 drive alone shares range from 20.4 percent of greater downtown San Francisco (#1) resident commuters to a high of 82.8 percent of Cupertino / Saratoga (#10) resident commuters (Table A.8). The most significant increase in drive alone share, 1980 to 1990, was in superdistrict #15 (Livermore / Pleasanton) with drive alone share increasing from 70.7 percent to 81.1 percent in ten years.

With the exception of greater downtown San Francisco, all superdistricts showed a decline in shared ride (carpool) share between 1980 and 1990. Commuters living in downtown San Francisco (#1) had the lowest shared ride share in 1990 (6.9%). The highest carpooling rates in the Bay Area in 1990 were in Vallejo / Benicia (superdistrict #25) (20.6%). The most dramatic decline in carpooling shares occurred in Danville / San Ramon (SD #23, 17.7% in 1980 to 9.9% in 1990), and Fremont / Union City (SD #16, 20.9% in 1980 to 14.1% in 1990).

Transit shares to work increased in eight superdistricts between 1980 and 1990, as follows:

#11 - Central San Jose	4.1% to 5.1%
#12 - Milpitas / East San Jose	2.7% to 3.4%
#17 - Hayward / San Leandro	7.0% to 7.5%
#21 - Concord / Martinez	8.4% to 8.6%
#25 - Vallejo / Benicia	2.6% to 3.6%
#26 - Fairfield / Vacaville	1.3% to 1.4%
#31 - Healdsburg / Cloverdale	0.9% to 1.6%
#34 - Mill Valley / Sausalito	12.2% to 12.7%

Transit shares by superdistrict for 1990 range from a low of 0.3 percent of Northern Napa County resident workers to a high of 35.4 percent of greater Richmond District (San Francisco) resident workers. The widest variation in transit shares, within a county, is in Alameda County, ranging from 1.6 percent transit share of Livermore / Pleasanton workers (#15) to 16.2 percent transit share of Oakland / Alameda (#18)

resident workers.

Walk to work shares, by superdistrict, range from 0.9 percent of Milpitas / East San Jose (#12) resident workers to 31.4 percent of workers residing in greater downtown San Francisco. Other superdistricts with above average walk to work shares include Berkeley / Albany (#19) at 13.0%, and St. Helena / Calistoga / Angwin (#28) at 10.7%.

Without exception, work at home shares increased in all 34 superdistricts between 1980 and 1990. Work at home shares range from 1.4 percent of Milpitas / East San Jose (#12) workers to 8.3 percent of Mill Valley / Sausalito (#34) resident workers.

Average Vehicle Occupancy. Average commute vehicle occupancy by MTC 34 superdistrict, 1980 to 1990, is shown in Table A.11. Commute vehicle occupancy is derived by dividing the sum of drive alone and carpool commuters by the number of drive alone plus carpool vehicle drivers. Regional commute vehicle occupancy declined by 3.1 percent between 1980 and 1990, declining from 1.131 persons per vehicle in 1980 to 1.096 persons per vehicle by 1990.

Without exception, all 34 superdistricts showed a decline in vehicle occupancy between 1980 and 1990. The severest percentage declines were in Livermore / Pleasanton (SD #15, -6.0%, 1.135 to 1.067) and Danville / San Ramon (SD #23, -6.0%, 1.133 to 1.065). Average vehicle occupancy, by superdistrict, ranges from 1.049 persons per vehicle in superdistrict #8 (Palo Alto / Los Altos) to 1.172 persons per vehicle for resident workers of superdistrict #1 (greater downtown San Francisco).

Average Vehicle Ridership. Average vehicle ridership (AVR) is a coined term to assess the relative efficiency of commute travel. It is typically measured as the ratio of commuters to the number of vehicles used in the daily commute. Two variations on AVR are presented here: "total" average vehicle ridership (Table A.12) defined as total workers divided by vehicles used in the journey-to-work; and "person commuter" average vehicle ridership (Table A.13) defined as person commuters divided by vehicles used in the journey-to-work. A person commuter is defined as a worker commuting by drive alone, carpool, or transit means. Measures of AVR in Table A.12 and A.13 are by superdistrict of residence, not superdistrict of work.

Bay Area AVR declined from 1.430 total workers per vehicle in 1980 to 1.351 total workers per vehicle by 1990, a 5.5 percent decrease (Table A.12). All superdistricts showed a decline in AVR between 1980 and 1990. AVR ranges from a low of 1.148 total workers per vehicle in Cupertino / Saratoga (#10) to 4.291 total workers per

vehicle in greater downtown San Francisco (#1). The downtown San Francisco superdistrict also showed the largest percent and absolute decrease in AVR between 1980 and 1990, dropping from 5.379 in 1980 to 4.291 total workers per vehicle in 1990.

The Oakland / Alameda (#18) and the Redwood City / Menlo Park (#7) superdistricts showed the *least* decline in AVR between 1980 and 1990 (-1.1%).

Mean Travel Time to Work. Mean (average) commute time, 1980 and 1990, by 34 superdistrict is summarized in Table A.14. Persons who work at home are excluded from this calculation. The regional mean commute time increased from 24.3 minutes per one-way commute in 1980 to 25.6 minutes in 1990.

Average commute time declined in six superdistricts between 1980 and 1990, as follows:

#4 - Sunset District SF	-0.9%, 30.3 to 30.0 minutes
#12 - Milpitas / East San Jose	-3.4%, 26.0 to 25.1 minutes
#22 - Walnut Creek	-1.8%, 28.9 to 28.3 minutes
#23 - Danville / San Ramon	-5.2%, 30.0 to 28.5 minutes
#32 - Novato	-3.6%, 31.5 to 30.4 minutes
#34 - Mill Valley / Sausalito	-2.4%, 28.2 to 27.5 minutes

Average commute times range from 18.4 minutes per one-way 1990 commute in superdistrict #8 - Palo Alto / Los Altos, to 31.6 minutes in Eastern Contra Costa County (superdistrict #24). Resident workers of Vallejo / Benicia (#25) were subject to the largest percent increase (+30.7%) in commute times between 1980 and 1990, increasing from 23.0 minutes in 1980 to 30.1 minutes in 1990. Other areas showing significant percent increases in average commute times between 1980 and 1990 include #24 - Antioch / Pittsburg / Brentwood / Byron (+24.9%), #26 - Fairfield / Vacaville (+24.6%), #31 - Healdsburg / Cloverdale (+12.3%), #1 - Downtown San Francisco (+11.4%), and #27 - Napa / American Canyon (+11.0%).

Workers by Trip Length (in Minutes) to Work. Trip length frequency distributions for the 1990 Census journey-to-work are shown in Tables A.15 and A.16. The number of workers by travel time is shown in Table A.15; shares of workers by commute time are summarized in Table A.16.

Regionally, the largest percentage of workers (29.7%) travels between 10 to 19 minutes from home to work. This is followed by the 30 to 44 minute cohort (21.7% of all commuters), the 20 to 29 minute cohort (20.3%), and the 0 to 9 minute group (11.3%). Only 8.8 percent of Bay Area commuters travel between 45 and 59 minutes to work, and only 8.1 percent travel greater than one hour between home-and-work.

Share of workers by trip length to work follows similar patterns as for average commute time to work. Eastern Contra Costa County (#24) commuters have the longest average commute (31.6 minutes) and have the largest share of commuters travelling longer than one hour to work (17.6%).

- Northern Napa County (SD #28) has the highest share of commuters travelling less than 10 minutes to work – 31.8 percent of resident commuters.
- At the other extreme, only 4.9 percent of Sunset District (San Francisco SD #4) resident commuters travel less than 10 minutes to work.
- Sunnyvale / Mountain View (SD #9) has the highest share of commuters travelling between 10 and 19 minutes to work – 44.9 percent.
- The Sunset District of San Francisco also has the lowest share of commuters travelling between 10 and 19 minutes to work – 18.9 percent.
- The share of commuters travelling 20 to 29 minutes to work ranges from 11.5 percent of Gilroy / Morgan Hill commuters (SD #14) to 29.9 percent of Cupertino / Saratoga (SD #10) commuters.
- Sunnyvale / Mountain View (SD #9) has the lowest share of resident commuters travelling greater than 60 minutes to work – 2.8 percent.
- Santa Clara County has the widest range in terms of share of commuters travelling greater than 60 minutes to work, ranging from 2.8 percent of Sunnyvale / Mountain View commuters to 12.6 percent of Gilroy / Morgan Hill (SD #14) resident commuters.

Table A.1

Employed Residents by MTC 34 Superdistrict & County, 1980-1990

	1980 Total HHlds.	1990 Total HHlds.	1980 Civilian Employed	1990 Civilian Employed	1980 Total Employed	1990 Total Employed	1980 Employed per HH	1990 Employed per HH
1 Downtown San Francisco	57,049	58,045	52,923	58,485	55,973	60,489	0.981	1.042
2 Richmond District	94,058	95,850	105,547	116,948	107,823	118,800	1.146	1.239
3 Mission District	100,592	104,212	125,986	148,012	126,334	148,762	1.256	1.427
4 Sunset District	47,257	47,477	57,995	63,085	58,129	63,241	1.230	1.332
5 Daly City/San Bruno	87,758	92,181	128,959	140,722	129,276	141,063	1.473	1.530
6 San Mateo/Burlingame	69,355	76,496	94,606	108,870	94,731	108,994	1.366	1.425
7 Redwood City/Menlo Park	68,088	73,237	89,960	103,372	90,235	103,569	1.325	1.414
8 Palo Alto/Los Altos	60,251	66,423	83,389	93,509	83,933	94,284	1.393	1.419
9 Sunnyvale/Mtn. View	72,470	79,918	102,638	116,319	105,537	119,537	1.456	1.496
10 Cupertino/Saratoga	104,567	111,930	154,764	165,232	155,180	165,540	1.484	1.479
11 Central San Jose	81,100	87,130	102,707	128,745	103,023	128,960	1.270	1.480
12 Milpitas/East San Jose	68,439	87,173	107,319	156,971	108,341	157,578	1.583	1.808
13 South San Jose	53,912	63,619	84,946	107,660	85,266	107,893	1.582	1.696
14 Gilroy/Morgan Hill	17,780	23,987	25,166	38,481	25,228	38,553	1.419	1.607
15 Livermore/Pleasanton	33,521	47,924	49,596	74,868	49,783	75,062	1.485	1.566
16 Fremont/Union City	65,111	87,589	100,205	144,155	100,553	144,635	1.544	1.651
17 Hayward/San Leandro	101,827	112,779	127,345	145,521	127,886	146,450	1.256	1.299
18 Oakland/Alameda	159,467	164,820	164,276	189,078	170,401	200,012	1.069	1.214
19 Berkeley/Albany	66,166	66,406	73,280	82,218	73,470	82,302	1.110	1.239
20 Richmond/El Cerrito	69,572	80,139	81,176	101,285	81,385	101,588	1.170	1.268
21 Concord/Martinez	63,993	76,395	86,785	108,472	88,343	110,316	1.381	1.444
22 Walnut Creek	49,921	55,736	62,663	68,910	62,789	69,131	1.258	1.240
23 Danville/San Ramon	20,188	32,165	30,566	50,648	30,631	50,755	1.517	1.578
24 Antioch/Pittsburg	37,860	55,853	43,969	77,192	44,325	77,561	1.171	1.389
25 Vallejo/Benicia	35,850	47,649	40,082	61,677	43,617	65,495	1.217	1.375
26 Fairfield/Vacaville	44,576	65,780	50,105	89,633	59,016	96,724	1.324	1.470
27 Napa	24,423	28,131	29,110	35,638	29,263	35,782	1.198	1.272
28 St. Helena	12,201	13,181	13,878	16,895	13,934	16,901	1.142	1.282
29 Petaluma/Rohnert Park	38,951	52,766	46,705	71,169	47,661	71,994	1.224	1.364
30 Santa Rosa/Sebastopol	57,380	72,082	63,781	91,050	63,877	91,227	1.113	1.266
31 Healdsburg/Cloverdale	18,143	24,163	19,584	31,077	19,584	31,166	1.079	1.290
32 Novato	17,462	20,812	24,355	29,089	25,658	30,467	1.469	1.464
33 San Rafael	38,724	40,189	50,939	53,789	51,177	53,924	1.322	1.342
34 Mill Valley/Sausalito	32,537	34,005	41,507	43,008	41,725	43,188	1.282	1.270
Region	1,970,549	2,246,242	2,516,812	3,111,783	2,554,087	3,151,943	1.296	1.403
San Francisco	298,956	305,584	342,451	386,530	348,259	391,292	1.165	1.280
San Mateo	225,201	241,914	313,525	352,964	314,242	353,626	1.395	1.462
Santa Clara	458,519	520,180	660,929	806,917	666,508	812,345	1.454	1.562
Alameda	426,092	479,518	514,702	635,840	522,093	648,461	1.225	1.352
Contra Costa	241,534	300,288	305,159	406,507	307,473	409,351	1.273	1.363
Solano	80,426	113,429	90,187	151,310	102,633	162,219	1.276	1.430
Napa	36,624	41,312	42,988	52,533	43,197	52,683	1.179	1.275
Sonoma	114,474	149,011	130,070	193,296	131,122	194,387	1.145	1.305
Marin	88,723	95,006	116,801	125,886	118,560	127,579	1.336	1.343

Table A.2
Average (Mean) Household Income by MTC 34 Superdistrict & County, 1980-1990

	1980 Total HHlds.	1990 Total HHlds.	1980 Mean HH Income (\$795)	1980 Mean HH Income (\$895)	1990 Mean HH Income (\$895)	Percent Change, 1980-1990
1 Downtown San Francisco	57,049	58,045	\$15,953	\$28,881	\$34,854	20.7%
2 Richmond District	94,058	95,850	\$21,889	\$39,627	\$52,425	32.3%
3 Mission District	100,592	104,212	\$20,028	\$36,258	\$43,158	19.0%
4 Sunset District	47,257	47,477	\$24,973	\$45,210	\$51,118	13.1%
5 Daly City/San Bruno	87,758	92,181	\$25,160	\$45,548	\$49,317	8.3%
6 San Mateo/Burlingame	69,355	76,496	\$29,986	\$54,285	\$64,971	19.7%
7 Redwood City/Menlo Park	68,088	73,237	\$28,513	\$51,618	\$67,022	29.8%
8 Palo Alto/Los Altos	60,251	66,423	\$30,870	\$55,885	\$72,504	29.7%
9 Sunnyvale/Mtn. View	72,470	79,918	\$24,376	\$44,129	\$52,000	17.8%
10 Cupertino/Saratoga	104,567	111,930	\$29,506	\$53,416	\$66,319	24.2%
11 Central San Jose	81,100	87,130	\$20,693	\$37,461	\$43,536	16.2%
12 Milpitas/East San Jose	68,439	87,173	\$25,770	\$46,653	\$55,184	18.3%
13 South San Jose	53,912	63,619	\$29,339	\$53,114	\$61,085	15.0%
14 Gilroy/Morgan Hill	17,780	23,987	\$26,300	\$47,612	\$56,187	18.0%
15 Livermore/Pleasanton	33,521	47,924	\$27,832	\$50,386	\$59,487	18.1%
16 Fremont/Union City	65,111	87,589	\$26,707	\$48,349	\$55,794	15.4%
17 Hayward/San Leandro	101,827	112,779	\$22,564	\$40,849	\$42,723	4.6%
18 Oakland/Alameda	159,467	164,820	\$19,405	\$35,130	\$40,779	16.1%
19 Berkeley/Albany	66,166	66,406	\$18,756	\$33,955	\$42,225	24.4%
20 Richmond/El Cerrito	69,572	80,139	\$21,621	\$39,141	\$42,954	9.7%
21 Concord/Martinez	63,993	76,395	\$24,891	\$45,061	\$49,976	10.9%
22 Walnut Creek	49,921	55,736	\$34,163	\$61,847	\$69,985	13.2%
23 Danville/San Ramon	20,188	32,165	\$40,591	\$73,484	\$91,717	24.8%
24 Antioch/Pittsburg	37,860	55,853	\$20,778	\$37,615	\$44,054	17.1%
25 Vallejo/Benicia	35,850	47,649	\$20,270	\$36,696	\$43,364	18.2%
26 Fairfield/Vacaville	44,576	65,780	\$21,835	\$39,529	\$43,905	11.1%
27 Napa	24,423	28,131	\$21,750	\$39,375	\$42,978	9.2%
28 St. Helena	12,201	13,181	\$24,422	\$44,212	\$53,759	21.6%
29 Petaluma/Rohnert Park	38,951	52,766	\$21,259	\$38,486	\$43,659	13.4%
30 Santa Rosa/Sebastopol	57,380	72,082	\$21,329	\$38,613	\$44,540	15.3%
31 Healdsburg/Cloverdale	18,143	24,163	\$19,701	\$35,666	\$45,861	28.6%
32 Novato	17,462	20,812	\$29,178	\$52,822	\$58,989	11.7%
33 San Rafael	38,724	40,189	\$28,854	\$52,236	\$62,511	19.7%
34 Mill Valley/Sausalito	32,537	34,005	\$33,902	\$61,374	\$79,968	30.3%
Region	1,970,549	2,246,242	\$24,350	\$44,082	\$52,191	18.4%
San Francisco	298,956	305,584	\$20,617	\$37,324	\$45,724	22.5%
San Mateo	225,201	241,914	\$27,663	\$50,080	\$59,628	19.1%
Santa Clara	458,519	520,180	\$26,617	\$48,186	\$58,120	20.6%
Alameda	426,092	479,518	\$21,838	\$39,534	\$46,048	16.5%
Contra Costa	241,534	300,288	\$26,535	\$48,038	\$55,179	14.9%
Solano	80,426	113,429	\$21,151	\$38,291	\$43,678	14.1%
Napa	36,624	41,312	\$22,647	\$40,999	\$46,408	13.2%
Sonoma	114,474	149,011	\$21,050	\$38,108	\$44,442	16.6%
Marin	88,723	95,006	\$30,774	\$55,712	\$67,990	22.0%

Table A.3
Households by Number of Vehicles Available by MTC 34 Superdistrict & County, 1980-1990

	1980 No Vehicle HHlds.	1990 No Vehicle HHlds.	1980 One Vehicle HHlds.	1990 One Vehicle HHlds.	1980 Two Vehicle HHlds.	1990 Two Vehicle HHlds.	1980 3+ Vehicle HHlds.	1990 3+ Vehicle HHlds.	1980 Total HHlds.	1990 Total HHlds.
1 Downtown San Francisco	37,514	35,558	15,693	17,230	3,309	4,422	509	853	57,025	58,063
2 Richmond District	31,202	27,092	44,300	45,472	14,383	18,277	4,173	5,009	94,058	95,850
3 Mission District	27,092	23,933	44,007	44,497	21,862	26,547	7,668	9,214	100,629	104,191
4 Sunset District	7,654	7,223	23,131	20,072	12,315	15,133	4,138	5,052	47,238	47,480
5 Daly City/San Bruno	5,790	6,385	33,157	30,445	31,757	34,568	17,044	20,766	87,748	92,164
6 San Mateo/Burlingame	4,296	4,173	24,519	24,863	26,900	30,478	13,650	16,964	69,365	76,478
7 Redwood City/Menlo Park	4,245	4,125	24,388	23,088	24,273	28,481	15,158	17,578	68,064	73,272
8 Palo Alto/Los Altos	3,532	3,508	22,680	23,098	21,469	25,986	12,526	13,798	60,207	66,390
9 Sunnyvale/Mtn. View	3,186	3,582	28,023	28,539	26,217	32,207	15,097	15,664	72,523	79,992
10 Cupertino/Saratoga	3,829	4,546	31,117	29,296	40,645	47,838	28,962	30,285	104,553	111,965
11 Central San Jose	9,630	8,796	30,488	29,374	25,902	31,836	15,013	17,046	81,033	87,052
12 Milpitas/East San Jose	2,892	3,964	18,238	19,681	27,060	35,047	20,289	28,473	68,479	87,165
13 South San Jose	1,301	1,917	12,089	12,487	23,536	28,111	16,984	21,096	53,910	63,611
14 Gilroy/Morgan Hill	843	1,013	4,235	5,314	6,458	9,587	6,201	8,091	17,737	24,005
15 Livermore/Pleasanton	945	1,398	8,287	10,635	14,020	21,502	10,257	14,388	33,509	47,923
16 Fremont/Union City	2,208	2,854	16,464	20,528	26,449	38,895	19,989	25,292	65,110	87,569
17 Hayward/San Leandro	7,952	8,866	36,012	37,275	35,603	42,426	22,249	24,237	101,816	112,804
18 Oakland/Alameda	35,971	33,821	69,163	66,418	38,584	44,973	15,740	19,607	159,458	164,819
19 Berkeley/Albany	13,879	11,772	31,717	30,194	15,187	18,122	5,383	6,315	66,166	66,403
20 Richmond/El Cerrito	7,699	8,504	25,858	27,057	22,992	28,653	13,002	15,965	69,551	80,179
21 Concord/Martinez	3,134	3,856	20,299	22,862	24,194	32,670	16,423	16,895	64,050	76,283
22 Walnut Creek	2,138	2,695	16,476	17,384	20,860	23,592	10,446	12,118	49,920	55,789
23 Danville/San Ramon	205	361	3,343	5,576	9,877	15,360	6,701	10,818	20,126	32,115
24 Antioch/Pittsburg	3,095	3,713	11,519	14,938	13,472	23,346	9,764	13,925	37,850	55,922
25 Vallejo/Benicia	3,178	3,628	13,265	14,679	12,382	18,686	7,009	10,656	35,834	47,649
26 Fairfield/Vacaville	2,220	2,888	13,631	17,511	16,763	28,522	11,940	16,859	44,554	65,780
27 Napa	1,743	1,927	7,786	8,432	8,435	11,456	6,498	6,351	24,462	28,166
28 St. Helena	821	814	3,958	4,348	3,936	4,910	3,439	3,074	12,154	13,146
29 Petaluma/Rohnert Park	2,349	2,744	13,303	16,108	13,603	21,833	9,710	12,084	38,965	52,769
30 Santa Rosa/Sebastopol	4,324	4,952	19,769	23,430	19,282	28,053	13,970	15,659	57,345	72,094
31 Healdsburg/Cloverdale	1,052	1,045	5,921	7,064	6,145	10,073	5,029	5,966	18,147	24,148
32 Novato	561	888	5,291	5,719	7,380	9,180	4,241	5,025	17,473	20,812
33 San Rafael	2,432	2,369	13,953	12,884	14,756	16,518	7,580	8,407	38,721	40,178
34 Mill Valley/Sausalito	1,826	1,622	13,476	12,801	11,927	13,613	5,293	5,980	32,522	34,016
Region	240,738	236,532	705,556	729,299	641,933	820,901	382,075	459,510	1,970,302	2,246,242
San Francisco	103,462	93,806	127,131	127,271	51,869	64,379	16,488	20,128	298,950	305,584
San Mateo	14,331	14,683	82,064	78,396	82,930	93,527	45,852	55,308	225,177	241,914
Santa Clara	25,213	27,326	146,870	147,789	171,287	210,612	115,072	134,453	458,442	520,180
Alameda	60,955	58,711	161,643	165,050	129,843	165,918	73,618	89,839	426,059	479,518
Contra Costa	16,271	19,129	77,495	87,817	91,395	123,621	56,336	69,721	241,497	300,288
Solano	5,398	6,516	26,896	32,190	29,145	47,208	18,949	27,515	80,388	113,429
Napa	2,564	2,741	11,744	12,780	12,371	16,366	9,937	9,425	36,616	41,312
Sonoma	7,725	8,741	38,993	46,602	39,030	59,959	28,709	33,709	114,457	149,011
Marin	4,819	4,879	32,720	31,404	34,063	39,311	17,114	19,412	88,716	95,006

Table A.4

Share of Households by Number of Vehicles Available by MTC 34 Superdistrict & County, 1980-1990

	1980 No Vehicle HHlds.	1990 No Vehicle HHlds.	1980 One Vehicle HHlds.	1990 One Vehicle HHlds.	1980 Two Vehicle HHlds.	1990 Two Vehicle HHlds.	1980 3+ Vehicle HHlds.	1990 3+ Vehicle HHlds.	1980 Total HHlds.	1990 Total HHlds.
1 Downtown San Francisco	65.8%	61.2%	27.5%	29.7%	5.8%	7.6%	0.9%	1.5%	100.0%	100.0%
2 Richmond District	33.2%	28.3%	47.1%	47.4%	15.3%	19.1%	4.4%	5.2%	100.0%	100.0%
3 Mission District	26.9%	23.0%	43.7%	42.7%	21.7%	25.5%	7.6%	8.8%	100.0%	100.0%
4 Sunset District	16.2%	15.2%	49.0%	42.3%	26.1%	31.9%	8.8%	10.6%	100.0%	100.0%
5 Daly City/San Bruno	6.6%	6.9%	37.8%	33.0%	36.2%	37.5%	19.4%	22.5%	100.0%	100.0%
6 San Mateo/Burlingame	6.2%	5.5%	35.3%	32.5%	38.8%	39.9%	19.7%	22.2%	100.0%	100.0%
7 Redwood City/Menlo Park	6.2%	5.6%	35.8%	31.5%	35.7%	38.9%	22.3%	24.0%	100.0%	100.0%
8 Palo Alto/Los Altos	5.9%	5.3%	37.7%	34.8%	35.7%	39.1%	20.8%	20.8%	100.0%	100.0%
9 Sunnyvale/Mtn View	4.4%	4.5%	38.6%	35.7%	36.1%	40.3%	20.8%	19.6%	100.0%	100.0%
10 Cupertino/Saratoga	3.7%	4.1%	29.8%	26.2%	38.9%	42.7%	27.7%	27.0%	100.0%	100.0%
11 Central San Jose	11.9%	10.1%	37.6%	33.7%	32.0%	36.6%	18.5%	19.6%	100.0%	100.0%
12 Milpitas/East San Jose	4.2%	4.5%	26.6%	22.6%	39.5%	40.2%	29.6%	32.7%	100.0%	100.0%
13 South San Jose	2.4%	3.0%	22.4%	19.6%	43.7%	44.2%	31.5%	33.2%	100.0%	100.0%
14 Gilroy/Morgan Hill	4.8%	4.2%	23.9%	22.1%	36.4%	39.9%	35.0%	33.7%	100.0%	100.0%
15 Livermore/Pleasanton	2.8%	2.9%	24.7%	22.2%	41.8%	44.9%	30.6%	30.0%	100.0%	100.0%
16 Fremont/Union City	3.4%	3.3%	25.3%	23.4%	40.6%	44.4%	30.7%	28.9%	100.0%	100.0%
17 Hayward/San Leandro	7.8%	7.9%	35.4%	33.0%	35.0%	37.6%	21.9%	21.5%	100.0%	100.0%
18 Oakland/Alameda	22.6%	20.5%	43.4%	40.3%	24.2%	27.3%	9.9%	11.9%	100.0%	100.0%
19 Berkeley/Albany	21.0%	17.7%	47.9%	45.5%	23.0%	27.3%	8.1%	9.5%	100.0%	100.0%
20 Richmond/El Cerrito	11.1%	10.6%	37.2%	33.7%	33.1%	35.7%	18.7%	19.9%	100.0%	100.0%
21 Concord/Marinette	4.9%	5.1%	31.7%	30.0%	37.8%	42.8%	25.6%	22.1%	100.0%	100.0%
22 Walnut Creek	4.3%	4.8%	33.0%	31.2%	41.8%	42.3%	20.9%	21.7%	100.0%	100.0%
23 Danville/San Ramon	1.0%	1.1%	16.6%	17.4%	49.1%	47.8%	33.3%	33.7%	100.0%	100.0%
24 Antioch/Pittsburg	8.2%	6.6%	30.4%	26.7%	35.6%	41.7%	25.8%	24.9%	100.0%	100.0%
25 Vallejo/Bericia	8.9%	7.6%	37.0%	30.8%	34.6%	39.2%	19.6%	22.4%	100.0%	100.0%
26 Fairfield/Vacaville	5.0%	4.4%	30.6%	26.6%	37.6%	43.4%	26.8%	25.6%	100.0%	100.0%
27 Napa	7.1%	6.8%	31.8%	29.9%	34.5%	40.7%	26.6%	22.5%	100.0%	100.0%
28 St. Helena	6.8%	6.2%	32.6%	33.1%	32.4%	37.3%	28.3%	23.4%	100.0%	100.0%
29 Petaluma/Rohnert Park	6.0%	5.2%	34.1%	30.5%	34.9%	41.4%	24.9%	22.9%	100.0%	100.0%
30 Santa Rosa/Sebastopol	7.5%	6.9%	34.5%	32.5%	33.6%	38.9%	24.4%	21.7%	100.0%	100.0%
31 Healdsburg/Cloverdale	5.8%	4.3%	32.6%	29.3%	33.9%	41.7%	27.7%	24.7%	100.0%	100.0%
32 Novato	3.2%	4.3%	30.3%	27.5%	42.2%	44.1%	24.3%	24.1%	100.0%	100.0%
33 San Rafael	6.3%	5.9%	36.0%	32.1%	38.1%	41.1%	19.6%	20.9%	100.0%	100.0%
34 Mill Valley/Sausalito	5.6%	4.8%	41.4%	37.6%	36.7%	40.0%	16.3%	17.6%	100.0%	100.0%
Region	12.2%	10.5%	35.8%	32.5%	32.6%	36.5%	19.4%	20.5%	100.0%	100.0%
San Francisco	34.6%	30.7%	42.5%	41.6%	17.4%	21.1%	5.5%	6.6%	100.0%	100.0%
San Mateo	6.4%	6.1%	36.4%	32.4%	36.8%	38.7%	20.4%	22.9%	100.0%	100.0%
Santa Clara	5.5%	5.3%	32.0%	28.4%	37.4%	40.5%	25.1%	25.8%	100.0%	100.0%
Alameda	14.3%	12.2%	37.9%	34.4%	30.5%	34.6%	17.3%	18.7%	100.0%	100.0%
Contra Costa	6.7%	6.4%	32.1%	29.2%	37.8%	41.2%	23.3%	23.2%	100.0%	100.0%
Solano	6.7%	5.7%	33.5%	28.4%	36.3%	41.6%	23.6%	24.3%	100.0%	100.0%
Napa	7.0%	6.6%	32.1%	30.9%	33.8%	39.6%	27.1%	22.8%	100.0%	100.0%
Sonoma	6.7%	5.9%	34.1%	31.3%	34.1%	40.2%	25.1%	22.6%	100.0%	100.0%
Marin	5.4%	5.1%	36.9%	33.1%	38.4%	41.4%	19.3%	20.4%	100.0%	100.0%

Table A.5
Household Vehicle Ownership by MTC 34 Superdistrict & County, 1980-1990

	1980 Total HHlds.	1990 Total HHlds.	1980 Vehicles Owned	1990 Vehicles Owned	1980 Veh. per Household	1990 Veh. per Household	% change, Veh. per HHld.
1 Downtown San Francisco	57,049	58,045	23,890	28,836	0.42	0.50	18.6%
2 Richmond District	94,058	95,850	86,975	98,534	0.92	1.03	11.2%
3 Mission District	100,592	104,212	113,472	128,774	1.13	1.24	9.5%
4 Sunset District	47,257	47,477	61,681	67,160	1.31	1.41	8.4%
5 Daly City/San Bruno	87,758	92,181	151,962	170,675	1.73	1.85	6.9%
6 San Mateo/Burlingame	69,355	76,496	129,097	144,026	1.86	1.88	1.1%
7 Redwood City/Menlo Park	68,088	73,237	122,971	140,919	1.81	1.92	6.5%
8 Palo Alto/Los Altos	60,251	66,423	109,922	122,526	1.82	1.84	1.1%
9 Sunnyvale/Mtn. View	72,470	79,918	130,202	146,759	1.80	1.84	2.2%
10 Cupertino/Saratoga	104,567	111,930	217,887	229,796	2.08	2.05	-1.5%
11 Central San Jose	81,100	87,130	133,096	152,849	1.64	1.75	6.9%
12 Milpitas/East San Jose	68,439	87,173	143,714	190,490	2.10	2.19	4.1%
13 South San Jose	53,912	63,619	120,083	141,778	2.23	2.23	0.1%
14 Gilroy/Morgan Hill	17,780	23,987	42,296	53,491	2.38	2.23	-6.3%
15 Livermore/Pleasanton	33,521	47,924	71,529	102,934	2.13	2.15	0.7%
16 Fremont/Union City	65,111	87,589	141,422	185,457	2.17	2.12	-2.5%
17 Hayward/San Leandro	101,827	112,779	180,617	205,492	1.77	1.82	2.7%
18 Oakland/Alameda	159,467	164,820	200,760	222,883	1.26	1.35	7.4%
19 Berkeley/Albany	66,166	66,406	80,996	87,561	1.22	1.32	7.7%
20 Richmond/El Cerrito	69,572	80,139	116,348	139,010	1.67	1.73	3.7%
21 Concord/Martinez	63,993	76,395	129,534	145,630	2.02	1.91	-5.8%
22 Walnut Creek	49,921	55,736	91,832	105,347	1.84	1.89	2.7%
23 Danville/San Ramon	20,188	32,165	45,096	73,670	2.23	2.29	2.5%
24 Antioch/Pittsburg	37,860	55,853	73,526	109,221	1.94	1.96	0.7%
25 Vallejo/Benicia	35,850	47,649	60,948	88,304	1.70	1.85	9.0%
26 Fairfield/Vacaville	44,576	65,780	86,941	131,904	1.95	2.01	2.8%
27 Napa	24,423	28,131	48,185	53,420	1.97	1.90	-3.7%
28 St. Helena	12,201	13,181	22,611	24,987	1.85	1.90	2.3%
29 Petaluma/Rohnert Park	38,951	52,766	77,174	101,234	1.98	1.92	-3.2%
30 Santa Rosa/Sebastopol	57,380	72,082	107,046	133,317	1.87	1.85	-0.9%
31 Healdsburg/Cloverdale	18,143	24,163	34,766	47,899	1.92	1.98	3.4%
32 Novato	17,462	20,812	34,318	41,081	1.97	1.97	0.4%
33 San Rafael	38,724	40,189	69,404	74,339	1.79	1.85	3.2%
34 Mill Valley/Sausalito	32,537	34,005	55,591	59,923	1.71	1.76	3.1%
Region	1,970,549	2,246,242	3,315,892	3,950,226	1.68	1.76	4.5%
San Francisco	298,956	305,584	286,018	323,304	0.96	1.06	10.6%
San Mateo	225,201	241,914	404,030	455,620	1.79	1.88	5.0%
Santa Clara	458,519	520,180	897,200	1,037,689	1.96	1.99	1.9%
Alameda	426,092	479,518	675,324	804,327	1.58	1.68	5.8%
Contra Costa	241,534	300,288	456,336	572,878	1.89	1.91	1.0%
Solano	80,426	113,429	147,889	220,208	1.84	1.94	5.6%
Napa	36,624	41,312	70,796	78,407	1.93	1.90	-1.8%
Sonoma	114,474	149,011	218,986	282,450	1.91	1.90	-0.9%
Marin	88,723	95,006	159,313	175,343	1.80	1.85	2.8%

Table A.6

Intra-County and Inter-County Workers by MTC 34 Superdistrict & County, 1990

Superdistrict/County of Residence	Intra-County Commuters	Percent Intra-County Commuters	Inter-County Commuters	Percent Inter-County Commuters	Total Commuters
1 Downtown San Francisco	49,652	84.6%	9,062	15.4%	58,714
2 Richmond District	95,463	82.1%	20,749	17.9%	116,212
3 Mission District	113,484	78.1%	31,888	21.9%	145,372
4 Sunset District	48,801	78.7%	13,210	21.3%	62,011
5 Daly City/San Bruno	68,520	49.8%	69,184	50.2%	137,704
6 San Mateo/Burlingame	73,044	68.2%	34,049	31.8%	107,093
7 Redwood City/Menlo Park	59,942	58.9%	41,820	41.1%	101,762
8 Palo Alto/Los Altos	73,542	79.9%	18,551	20.1%	92,093
9 Sunnyvale/Mtn. View	102,669	87.4%	14,841	12.6%	117,510
10 Cupertino/Saratoga	147,414	90.7%	15,030	9.3%	162,444
11 Central San Jose	116,564	92.3%	9,773	7.7%	126,337
12 Milpitas/East San Jose	136,891	88.7%	17,416	11.3%	154,307
13 South San Jose	98,324	92.7%	7,773	7.3%	106,097
14 Gilroy/Morgan Hill	34,961	92.4%	2,856	7.6%	37,817
15 Livermore/Pleasanton	52,928	71.8%	20,806	28.2%	73,734
16 Fremont/Union City	82,279	58.1%	59,303	41.9%	141,582
17 Hayward/San Leandro	110,787	77.8%	31,700	22.2%	142,487
18 Oakland/Alameda	143,579	73.5%	51,659	26.5%	195,238
19 Berkeley/Albany	56,589	70.6%	23,561	29.4%	80,150
20 Richmond/El Cerrito	44,510	44.9%	54,526	55.1%	99,036
21 Concord/Martinez	75,737	70.0%	32,483	30.0%	108,220
22 Walnut Creek	38,421	56.4%	29,646	43.6%	68,067
23 Danville/San Ramon	25,030	50.0%	25,027	50.0%	50,057
24 Antioch/Pittsburg	56,210	74.2%	19,583	25.8%	75,793
25 Vallejo/Benicia	31,355	49.0%	32,644	51.0%	63,999
26 Fairfield/Vacaville	66,122	69.8%	28,592	30.2%	94,714
27 Napa	24,301	69.4%	10,739	30.6%	35,040
28 St. Helena	14,130	85.5%	2,403	14.5%	16,533
29 Petaluma/Rohnert Park	48,401	68.7%	22,073	31.3%	70,474
30 Santa Rosa/Sebastopol	79,768	89.1%	9,742	10.9%	89,510
31 Healdsburg/Cloverdale	27,633	90.8%	2,814	9.2%	30,447
32 Novato	19,006	63.5%	10,945	36.5%	29,951
33 San Rafael	33,411	63.3%	19,359	36.7%	52,770
34 Mill Valley/Sausalito	20,818	49.1%	21,541	50.9%	42,359
Region	2,270,286	73.6%	815,348	26.4%	3,085,634
San Francisco	307,400	80.4%	74,909	19.6%	382,309
San Mateo	201,506	58.1%	145,053	41.9%	346,559
Santa Clara	710,365	89.2%	86,240	10.8%	796,605
Alameda	446,162	70.5%	187,029	29.5%	633,191
Contra Costa	239,908	59.8%	161,265	40.2%	401,173
Solano	97,477	61.4%	61,236	38.6%	158,713
Napa	38,431	74.5%	13,142	25.5%	51,573
Sonoma	155,802	81.8%	34,629	18.2%	190,431
Marin	73,235	58.6%	51,845	41.4%	125,080

Table A.7
Workers by Means of Transportation to Work by MTC 34 Superdistrict & County, 1980-1990

	1980	1990	1980	1990	1980	1990	1980	1990	1980	1990	1980	1990	1980	1990	1980	1990	1980	1990
	Drive Alone	Drive Alone	Shared Ride	Shared Ride	Transit Passenger	Transit Passenger	Walk to Work	Walk to Work	Other Means	Other Means	At Home	At Home	Work	Work	At Home	At Home	Work	Work
1 Downtown San Francisco	8,633	12,002	3,371	4,033	20,264	19,659	18,990	18,416	1,903	1,904	1,505	2,500	53,856	58,714	53,856	58,714	53,856	58,714
2 Richmond District	32,541	45,094	11,622	11,328	45,694	41,086	9,176	9,702	2,240	3,837	2,994	5,165	104,267	116,212	104,267	116,212	104,267	116,212
3 Mission District	48,372	60,643	17,475	19,874	48,667	48,667	6,335	7,219	2,464	4,062	2,074	4,907	145,372	151,881	145,372	151,881	145,372	151,881
4 Sunset District	24,169	29,448	9,560	8,690	18,546	18,546	2,306	2,274	1,032	1,144	967	1,907	56,980	62,011	56,980	62,011	56,980	62,011
5 Daly City/San Bruno	79,531	92,621	23,977	22,421	14,460	15,854	2,761	2,673	2,540	1,869	1,340	2,266	125,609	137,704	125,609	137,704	125,609	137,704
6 San Mateo City/Burlingame	67,129	82,536	13,564	11,503	5,712	5,685	2,665	2,679	1,669	1,565	1,618	3,125	92,357	107,093	92,357	107,093	92,357	107,093
7 Redwood City/Menlo Park	63,884	76,061	12,036	11,180	3,965	4,249	2,648	3,506	3,352	2,625	1,949	4,141	87,834	101,762	87,834	101,762	87,834	101,762
8 Palo Alto/Los Altos	56,356	67,327	8,837	6,520	2,925	2,718	3,485	3,938	7,804	7,523	2,430	4,067	81,837	92,093	81,837	92,093	81,837	92,093
9 Sunnyvale/Mtn. View	75,545	94,765	15,949	12,212	3,368	3,101	2,777	2,440	4,175	2,638	1,168	2,354	102,982	117,510	102,982	117,510	102,982	117,510
10 Cupertino/Saratoga	115,753	134,528	22,882	14,946	3,712	3,097	2,770	2,571	4,024	2,472	2,523	4,830	151,664	162,444	151,664	162,444	151,664	162,444
11 Central San Jose	70,538	91,955	16,877	18,337	4,082	6,419	3,962	4,176	3,188	2,658	1,359	2,792	100,006	126,337	100,006	126,337	100,006	126,337
12 Milpitas/East San Jose	74,746	115,640	22,670	27,617	2,788	5,295	1,592	1,402	2,227	2,121	1,123	2,222	105,146	154,307	105,146	154,307	105,146	154,307
13 South San Jose	61,146	86,271	15,293	12,858	2,530	2,424	1,097	1,038	2,088	1,146	1,086	2,360	82,240	106,987	82,240	106,987	82,240	106,987
14 Gilroy/Morgan Hill	16,460	28,499	5,119	5,673	710	673	1,067	944	591	667	621	1,361	24,568	37,817	24,568	37,817	24,568	37,817
15 Livermore/Pleasanton	34,437	59,800	9,120	7,897	1,436	1,160	867	1,237	2,188	1,549	691	2,131	48,739	73,734	48,739	73,734	48,739	73,734
16 Fremont/Union City	66,144	107,989	20,397	19,947	5,349	6,926	1,549	1,685	3,060	2,414	1,193	2,721	97,692	141,582	97,692	141,582	97,692	141,582
17 Hayward/San Leandro	86,117	105,357	20,825	17,978	8,672	10,663	3,102	2,920	3,357	2,778	1,689	2,791	123,962	142,487	123,962	142,487	123,962	142,487
18 Oakland/Alameda	92,328	115,110	22,751	26,517	33,421	31,577	9,223	8,875	4,196	4,420	2,621	12,730	164,540	195,238	164,540	195,238	164,540	195,238
19 Berkeley/Albany	32,278	38,510	7,629	8,434	14,448	12,912	9,318	10,419	4,426	5,362	2,573	4,513	70,492	80,150	70,492	80,150	70,492	80,150
20 Richmond/El Cerrito	50,417	64,891	14,247	17,231	8,380	10,456	2,009	2,012	1,809	1,809	1,364	2,637	78,726	99,036	78,726	99,036	78,726	99,036
21 Concord/Martinez	57,630	77,886	15,203	12,969	7,206	9,312	1,937	2,117	2,795	1,914	1,274	4,022	86,045	108,220	86,045	108,220	86,045	108,220
22 Walnut Creek	39,655	47,308	9,732	7,374	7,501	7,813	1,417	1,317	1,648	1,034	1,606	3,221	61,559	68,067	61,559	68,067	61,559	68,067
23 Danville/San Ramon	21,388	40,441	5,297	4,970	1,699	1,517	368	560	453	547	742	2,022	29,947	50,057	29,947	50,057	29,947	50,057
24 Antioch/Pittsburg	30,521	56,228	8,661	12,944	1,008	2,246	1,096	1,365	889	1,259	648	1,751	42,823	75,793	42,823	75,793	42,823	75,793
25 Vallejo/Benicia	27,257	43,348	10,174	13,211	1,118	2,324	1,990	1,926	1,321	1,516	433	1,674	42,293	63,999	42,293	63,999	42,293	63,999
26 Fairfield/Vacaville	38,367	70,885	13,012	16,109	761	1,280	2,297	1,990	2,278	1,944	911	2,506	57,626	94,714	57,626	94,714	57,626	94,714
27 Napa	20,215	27,171	5,199	4,935	609	528	936	851	969	691	507	864	28,435	35,040	28,435	35,040	28,435	35,040
28 St. Helena	8,440	11,595	1,987	1,670	141	42	1,548	1,768	562	430	577	1,028	13,255	16,533	13,255	16,533	13,255	16,533
29 Petaluma/Roberts Park	30,389	51,692	8,808	10,262	2,574	2,135	2,032	2,470	1,391	1,222	1,294	2,693	46,488	70,474	46,488	70,474	46,488	70,474
30 Santa Rosa/Sebastopol	45,302	68,033	8,825	10,408	1,355	1,733	2,275	2,556	2,410	2,176	2,007	4,604	62,174	89,510	62,174	89,510	62,174	89,510
31 Healdsburg/Cloverdale	12,893	22,349	3,196	4,090	164	483	1,103	1,183	590	323	1,057	2,019	19,003	30,447	19,003	30,447	19,003	30,447
32 Novato	15,387	20,861	4,613	3,346	2,847	2,175	436	572	547	484	496	1,246	25,079	29,951	25,079	29,951	25,079	29,951
33 San Rafael	30,386	34,732	7,971	6,381	5,710	5,358	2,221	1,974	2,083	904	1,672	3,421	50,043	52,770	50,043	52,770	50,043	52,770
34 Mill Valley/Sausalito	24,005	27,121	6,028	4,541	4,943	5,366	1,543	1,193	2,392	643	1,646	3,495	40,557	42,359	40,557	42,359	40,557	42,359
Region	1,558,359	2,104,716	404,640	399,673	283,269	293,581	108,918	111,968	77,871	69,410	47,758	106,086	2,480,815	3,085,634	2,480,815	3,085,634	2,480,815	3,085,634
San Francisco	113,715	147,187	42,028	43,925	129,675	128,160	36,807	37,611	6,829	10,947	7,540	14,479	336,594	382,309	336,594	382,309	336,594	382,309
San Mateo	210,544	251,218	50,577	45,104	24,137	25,768	8,074	8,858	7,561	6,059	4,907	9,532	305,800	346,559	305,800	346,559	305,800	346,559
Santa Clara	470,544	618,975	107,627	98,163	20,115	23,727	16,750	16,509	24,097	19,225	10,310	19,986	649,443	796,605	649,443	796,605	649,443	796,605
Alameda	311,304	422,975	80,722	80,773	63,326	63,138	24,059	25,136	17,247	16,483	8,767	24,886	505,425	633,191	505,425	633,191	505,425	633,191
Contra Costa	199,611	286,254	53,140	55,488	25,794	31,344	6,827	7,371	7,594	6,563	5,634	13,653	298,600	401,173	298,600	401,173	298,600	401,173
Solano	65,624	114,233	23,186	29,320	1,879	3,604	4,287	3,916	3,599	3,460	1,344	4,180	99,919	158,713	99,919	158,713	99,919	158,713
Napa	28,655	38,766	7,186	6,605	750	570	2,484	2,619	1,531	1,121	1,084	1,892	41,690	51,573	41,690	51,573	41,690	51,573
Sonoma	88,584	142,074	20,829	24,760	4,093	4,351	5,410	6,209	4,391	3,721	4,358	9,316	127,665	190,431	127,665	190,431	127,665	190,431
Marin	69,778	82,714	19,345	15,535	13,500	12,899	4,220	3,739	5,022	2,031	3,814	8,162	115,679	125,080	115,679	125,080	115,679	125,080

Table A.9
Workers by "Commute-Person" Means by MTC 34 Superdistrict & County, 1980-1990

	1980 Drive Alone	1990 Drive Alone	1980 Shared Ride 2	1990 Shared Ride 2	1980 Shared Ride 3+	1990 Shared Ride 3+	1980 Transit Psggr.	1990 Transit Psggr.	1980 Total Cmmtr	1990 Total Cmmtr
1 Downtown San Francisco	8,633	12,002	2,108	2,653	1,263	1,380	20,264	19,859	32,268	35,894
2 Richmond District	32,541	45,094	8,818	8,971	2,804	2,357	45,694	41,086	89,857	97,508
3 Mission District	48,372	60,643	12,134	14,721	5,341	5,153	45,171	48,667	111,018	129,184
4 Sunset District	24,169	29,448	6,865	6,536	2,695	2,154	18,546	18,548	52,275	56,686
5 Daly City/San Bruno	79,531	92,621	17,932	17,705	7,045	4,716	14,460	15,854	118,968	130,896
6 San Mateo/Burlingame	67,129	82,536	10,235	9,340	3,329	2,163	5,712	5,685	86,405	99,724
7 Redwood City/Menlo Park	63,884	76,061	9,576	8,955	2,460	2,225	3,965	4,249	79,885	91,490
8 Palo Alto/Los Altos	56,356	67,327	7,278	5,456	1,559	1,064	2,925	2,718	68,118	76,565
9 Sunnyvale/Mtn. View	75,545	94,765	12,890	10,492	3,059	1,720	3,368	3,101	94,862	110,078
10 Cupertino/Saratoga	115,753	134,528	18,092	12,719	4,790	2,227	3,712	3,097	142,347	152,571
11 Central San Jose	70,538	91,955	13,233	14,510	3,644	3,827	4,082	6,419	91,497	116,711
12 Milpitas/East San Jose	74,746	115,650	17,117	22,445	5,553	5,172	2,788	5,295	100,204	148,562
13 South San Jose	61,146	86,271	11,991	10,982	3,302	1,876	2,530	2,424	78,969	101,553
14 Gilroy/Morgan Hill	16,460	28,499	3,876	4,477	1,243	1,196	710	673	22,289	34,845
15 Livermore/Pleasanton	34,437	59,800	6,345	6,479	2,775	1,418	1,436	1,160	44,993	68,857
16 Fremont/Union City	66,144	107,989	13,622	15,303	6,775	4,644	5,349	6,826	91,890	134,762
17 Hayward/San Leandro	86,117	105,357	15,621	14,490	5,204	3,488	8,672	10,663	115,614	133,998
18 Oakland/Alameda	92,328	111,119	15,527	17,739	7,224	8,778	33,421	31,577	148,500	169,213
19 Berkeley/Albany	32,278	38,510	5,043	5,317	2,586	3,117	14,448	12,912	54,355	59,856
20 Richmond/El Cerrito	50,417	64,891	9,702	11,880	4,545	5,351	8,380	10,456	73,044	92,578
21 Concord/Martinez	57,630	77,886	9,769	9,504	5,434	3,465	7,206	9,312	80,039	100,167
22 Walnut Creek	39,655	47,308	5,805	4,495	3,927	2,879	7,501	7,813	56,888	62,495
23 Danville/San Ramon	21,388	40,441	3,309	3,624	1,988	1,346	1,699	1,517	28,384	46,928
24 Antioch/Pittsburg	30,521	56,228	5,917	9,865	2,744	3,079	1,008	2,246	40,190	71,418
25 Vallejo/Benicia	27,257	43,348	5,644	8,508	4,530	4,703	1,118	2,324	38,549	58,883
26 Fairfield/Vacaville	38,367	70,885	7,822	10,970	5,190	5,139	761	1,280	52,140	88,274
27 Napa	20,215	27,171	3,315	3,642	1,884	1,293	609	528	26,023	32,634
28 St. Helena	8,440	11,595	1,356	1,274	631	396	141	42	10,568	13,307
29 Petaluma/Rohnert Park	30,389	51,692	5,371	7,758	3,437	2,504	2,574	2,135	41,771	64,089
30 Santa Rosa/Sebastopol	45,302	68,033	6,656	8,123	2,169	2,285	1,355	1,733	55,482	80,174
31 Healdsburg/Cloverdale	12,893	22,349	2,438	3,131	758	959	164	483	16,253	26,922
32 Novato	15,387	20,861	3,090	3,360	2,256	1,253	2,847	2,175	23,580	27,649
33 San Rafael	30,386	34,732	5,489	4,914	2,482	1,467	5,710	5,358	44,067	46,471
34 Mill Valley/Sausalito	24,005	27,121	4,309	3,848	1,719	693	4,943	5,366	34,976	37,028
Region	1,558,359	2,104,716	288,295	304,186	116,345	95,487	283,269	293,581	2,246,268	2,797,970
San Francisco	113,715	147,187	29,925	32,881	12,103	11,044	129,675	128,160	285,418	319,272
San Mateo	210,544	251,218	37,743	36,000	12,834	9,104	24,137	25,788	285,258	322,110
Santa Clara	470,544	618,995	84,477	81,081	23,150	17,082	20,115	23,727	598,286	740,885
Alameda	311,304	422,775	56,158	59,328	24,564	21,445	63,326	63,138	455,352	566,686
Contra Costa	199,611	286,754	34,502	39,368	18,638	16,120	25,794	31,344	278,545	373,586
Solano	65,624	114,233	13,466	19,478	9,720	9,842	1,879	3,604	90,689	147,157
Napa	28,655	38,766	4,671	4,916	2,515	1,689	750	570	36,591	45,941
Sonoma	88,584	142,074	14,465	19,012	6,364	5,748	4,093	4,351	113,506	171,185
Marin	69,778	82,714	12,888	12,122	6,457	3,413	13,500	12,899	102,623	111,148

Table A.10
Share of Workers by "Commute-Person" Means by MTC 34 Superdistrict & County, 1980-1990

	1980 Drive Alone	1990 Drive Alone	1980 Shared Ride 2	1990 Shared Ride 2	1980 Shared Ride 3+	1990 Shared Ride 3+	1980 Transit Psg.	1990 Transit Psg.	1980 Total Cmmtr	1990 Total Cmmtr
1 Downtown San Francisco	26.8%	33.4%	6.5%	7.4%	3.9%	3.8%	62.8%	55.3%	100.0%	100.0%
2 Richmond District	36.2%	46.2%	9.8%	9.2%	3.1%	2.4%	50.9%	42.1%	100.0%	100.0%
3 Mission District	43.6%	46.9%	10.9%	11.4%	4.8%	4.0%	40.7%	37.7%	100.0%	100.0%
4 Sunset District	46.2%	51.9%	13.1%	11.5%	5.2%	3.8%	35.5%	32.7%	100.0%	100.0%
5 Daly City/San Bruno	66.9%	70.8%	15.1%	13.5%	5.9%	3.6%	12.2%	12.1%	100.0%	100.0%
6 San Mateo/Burlingame	77.7%	82.8%	11.8%	9.4%	3.9%	2.2%	6.6%	5.7%	100.0%	100.0%
7 Redwood City/Menlo Park	80.0%	83.1%	12.0%	9.8%	3.1%	2.4%	5.0%	4.6%	100.0%	100.0%
8 Palo Alto/Los Altos	82.7%	87.9%	10.7%	7.1%	2.3%	1.4%	4.3%	3.5%	100.0%	100.0%
9 Sunnyvale/Mtn. View	79.6%	86.1%	13.6%	9.5%	3.2%	1.6%	3.6%	2.8%	100.0%	100.0%
10 Cupertino/Saratoga	81.3%	88.2%	12.7%	8.3%	3.4%	1.5%	2.6%	2.0%	100.0%	100.0%
11 Central San Jose	77.1%	78.8%	14.5%	12.4%	4.0%	3.3%	4.5%	5.5%	100.0%	100.0%
12 Milpitas/East San Jose	74.6%	77.8%	17.1%	15.1%	5.5%	3.5%	2.8%	3.6%	100.0%	100.0%
13 South San Jose	77.4%	85.0%	15.2%	10.8%	4.2%	1.8%	3.2%	2.4%	100.0%	100.0%
14 Gilroy/Morgan Hill	73.8%	81.8%	17.4%	12.8%	5.6%	3.4%	3.2%	1.9%	100.0%	100.0%
15 Livermore/Pleasanton	76.5%	86.8%	14.1%	9.4%	6.2%	2.1%	3.2%	1.7%	100.0%	100.0%
16 Fremont/Union City	72.0%	80.1%	14.8%	11.4%	7.4%	3.4%	5.8%	5.1%	100.0%	100.0%
17 Hayward/San Leandro	74.5%	78.6%	13.5%	10.8%	4.5%	2.6%	7.5%	8.0%	100.0%	100.0%
18 Oakland/Alameda	62.2%	65.7%	10.5%	10.5%	4.9%	5.2%	22.5%	18.7%	100.0%	100.0%
19 Berkeley/Albany	59.4%	64.3%	9.3%	8.9%	4.8%	5.2%	26.6%	21.6%	100.0%	100.0%
20 Richmond/El Cerrito	69.0%	70.1%	13.3%	12.8%	6.2%	5.8%	11.5%	11.3%	100.0%	100.0%
21 Concord/Martinez	72.0%	77.8%	12.2%	9.5%	6.8%	3.5%	9.0%	9.3%	100.0%	100.0%
22 Walnut Creek	69.7%	75.7%	10.2%	7.2%	6.9%	4.6%	13.2%	12.5%	100.0%	100.0%
23 Danville/San Ramon	75.4%	86.2%	11.7%	7.7%	7.0%	2.9%	6.0%	3.2%	100.0%	100.0%
24 Antioch/Pittsburg	75.9%	78.7%	14.7%	13.8%	6.8%	4.3%	2.5%	3.1%	100.0%	100.0%
25 Vallejo/Benicia	70.7%	73.6%	14.6%	14.4%	11.8%	8.0%	2.9%	3.9%	100.0%	100.0%
26 Fairfield/Vacaville	73.6%	80.3%	15.0%	12.4%	10.0%	5.8%	1.5%	1.5%	100.0%	100.0%
27 Napa	77.7%	83.3%	12.7%	11.2%	7.2%	4.0%	2.3%	1.6%	100.0%	100.0%
28 St. Helena	79.9%	87.1%	12.8%	9.6%	6.0%	3.0%	1.3%	0.3%	100.0%	100.0%
29 Petaluma/Rohnert Park	72.8%	80.7%	12.9%	12.1%	8.2%	3.9%	6.2%	3.3%	100.0%	100.0%
30 Santa Rosa/Sebastopol	81.7%	84.9%	12.0%	10.1%	3.9%	2.9%	2.4%	2.2%	100.0%	100.0%
31 Healdsburg/Cloverdale	79.3%	83.0%	15.0%	11.6%	4.7%	3.6%	1.0%	1.8%	100.0%	100.0%
32 Novato	65.3%	75.4%	13.1%	12.2%	9.6%	4.5%	12.1%	7.9%	100.0%	100.0%
33 San Rafael	69.0%	74.7%	12.5%	10.6%	5.6%	3.2%	13.0%	11.5%	100.0%	100.0%
34 Mill Valley/Sausalito	68.6%	73.2%	12.3%	10.4%	4.9%	1.9%	14.1%	14.5%	100.0%	100.0%
Region	69.4%	75.2%	12.8%	10.9%	5.2%	3.4%	12.6%	10.5%	100.0%	100.0%
San Francisco	39.8%	46.1%	10.5%	10.3%	4.2%	3.5%	45.4%	40.1%	100.0%	100.0%
San Mateo	73.8%	78.0%	13.2%	11.2%	4.5%	2.8%	8.5%	8.0%	100.0%	100.0%
Santa Clara	78.6%	83.5%	14.1%	10.9%	3.9%	2.3%	3.4%	3.2%	100.0%	100.0%
Alameda	68.4%	74.6%	12.3%	10.5%	5.4%	3.8%	13.9%	11.1%	100.0%	100.0%
Contra Costa	71.7%	76.8%	12.4%	10.5%	6.7%	4.3%	9.3%	8.4%	100.0%	100.0%
Solano	72.4%	77.6%	14.8%	13.2%	10.7%	6.7%	2.1%	2.4%	100.0%	100.0%
Napa	78.3%	84.4%	12.8%	10.7%	6.9%	3.7%	2.0%	1.2%	100.0%	100.0%
Sonoma	78.0%	83.0%	12.7%	11.1%	5.6%	3.4%	3.6%	2.5%	100.0%	100.0%
Marin	68.0%	74.4%	12.6%	10.9%	6.3%	3.1%	13.2%	11.6%	100.0%	100.0%

Table A.11

Vehicle Occupancy by MTC 34 Superdistrict & County, 1980-1990

Superdistrict/County of Residence	1980 In-Vehicle Person Commuters	1990 In-Vehicle Person Commuters	1980 Vehicles Used in Commute	1990 Vehicles Used in Commute	1980 Average Vehicle Occupancy	1990 Average Vehicle Occupancy	Percent Change, Vehicle Occupancy
1 Downtown San Francisco	12,004	16,035	10,013	13,682	1.199	1.172	-2.2%
2 Richmond District	44,163	56,422	37,705	50,255	1.171	1.123	-4.1%
3 Mission District	65,847	80,517	55,942	69,483	1.177	1.159	-1.6%
4 Sunset District	33,729	38,138	28,351	33,344	1.190	1.144	-3.9%
5 Daly City/San Bruno	104,508	115,042	90,509	102,869	1.155	1.118	-3.1%
6 San Mateo/Burlingame	80,693	94,039	73,193	87,834	1.102	1.071	-2.9%
7 Redwood City/Menlo Park	75,920	87,241	69,376	81,232	1.094	1.074	-1.9%
8 Palo Alto/Los Altos	65,193	73,847	60,458	70,377	1.078	1.049	-2.7%
9 Sunnyvale/Mtn. View	91,494	106,977	82,865	100,527	1.104	1.064	-3.6%
10 Cupertino/Saratoga	138,635	149,474	126,216	141,545	1.098	1.056	-3.9%
11 Central San Jose	87,415	110,292	78,225	100,350	1.117	1.099	-1.6%
12 Milpitas/East San Jose	97,416	143,267	84,901	128,421	1.147	1.116	-2.8%
13 South San Jose	76,439	99,129	68,108	92,312	1.122	1.074	-4.3%
14 Gilroy/Morgan Hill	21,579	34,172	18,745	31,074	1.151	1.100	-4.5%
15 Livermore/Pleasanton	43,557	67,697	38,382	63,455	1.135	1.067	-6.0%
16 Fremont/Union City	86,541	127,936	74,831	116,975	1.156	1.094	-5.4%
17 Hayward/San Leandro	106,942	123,335	95,406	113,634	1.121	1.085	-3.2%
18 Oakland/Alameda	115,079	137,636	102,174	122,607	1.126	1.123	-0.3%
19 Berkeley/Albany	39,907	46,944	35,534	42,130	1.123	1.114	-0.8%
20 Richmond/El Cerrito	64,664	82,122	56,544	72,426	1.144	1.134	-0.9%
21 Concord/Martinez	72,833	90,855	63,877	83,546	1.140	1.087	-4.6%
22 Walnut Creek	49,387	54,682	43,551	50,395	1.134	1.085	-4.3%
23 Danville/San Ramon	26,685	45,411	23,554	42,624	1.133	1.065	-6.0%
24 Antioch/Pittsburg	39,182	69,172	34,235	62,010	1.145	1.115	-2.5%
25 Vallejo/Benicia	37,431	56,559	31,248	48,858	1.198	1.158	-3.4%
26 Fairfield/Vacaville	51,379	86,994	43,697	77,655	1.176	1.120	-4.7%
27 Napa	25,414	32,106	22,378	29,329	1.136	1.095	-3.6%
28 St. Helena	10,427	13,265	9,297	12,350	1.122	1.074	-4.2%
29 Petaluma/Rohnert Park	39,197	61,954	33,968	56,267	1.154	1.101	-4.6%
30 Santa Rosa/Sebastopol	54,127	78,441	49,217	72,768	1.100	1.078	-2.0%
31 Healdsburg/Cloverdale	16,089	26,439	14,324	24,197	1.123	1.093	-2.7%
32 Novato	20,733	25,474	17,548	22,900	1.182	1.112	-5.8%
33 San Rafael	38,357	41,113	33,841	37,600	1.133	1.093	-3.5%
34 Mill Valley/Sausalito	30,033	31,662	26,658	29,244	1.127	1.083	-3.9%
Region	1,962,999	2,504,389	1,734,871	2,284,275	1.131	1.096	-3.1%
San Francisco	155,743	191,112	132,011	166,764	1.180	1.146	-2.9%
San Mateo	261,121	296,322	233,078	271,935	1.120	1.090	-2.7%
Santa Clara	578,171	717,158	519,518	664,606	1.113	1.079	-3.0%
Alameda	392,026	503,548	346,327	458,801	1.132	1.098	-3.0%
Contra Costa	252,751	342,242	221,761	311,001	1.140	1.100	-3.4%
Solano	88,810	143,553	74,945	126,513	1.185	1.135	-4.2%
Napa	35,841	45,371	31,675	41,679	1.132	1.089	-3.8%
Sonoma	109,413	166,834	97,509	153,232	1.122	1.089	-3.0%
Marin	89,123	98,249	78,047	89,744	1.142	1.095	-4.1%

Table A.12

"Average Vehicle Ridership" by MTC 34 Superdistrict & County, 1980-1990

Superdistrict/County of Residence	1980 Total Workers	1990 Total Workers	1980 Vehicles Used in Commute	1990 Vehicles Used in Commute	1980 Average Vehicle Ridership	1990 Average Vehicle Ridership	Percent Change, Vehicle Ridership
1 Downtown San Francisco	53,856	58,714	10,013	13,682	5.379	4.291	-20.2%
2 Richmond District	104,267	116,212	37,705	50,255	2.765	2.312	-16.4%
3 Mission District	121,891	145,372	55,942	69,483	2.179	2.092	-4.0%
4 Sunset District	56,580	62,011	28,351	33,344	1.996	1.860	-6.8%
5 Daly City/San Bruno	125,609	137,704	90,509	102,869	1.388	1.339	-3.5%
6 San Mateo/Burlingame	92,357	107,093	73,193	87,834	1.262	1.219	-3.4%
7 Redwood City/Menlo Park	87,834	101,762	69,376	81,232	1.266	1.253	-1.1%
8 Palo Alto/Los Altos	81,837	92,093	60,458	70,377	1.354	1.309	-3.3%
9 Sunnyvale/Mtn. View	102,982	117,510	82,865	100,527	1.243	1.169	-5.9%
10 Cupertino/Saratoga	151,664	162,444	126,216	141,545	1.202	1.148	-4.5%
11 Central San Jose	100,006	126,337	78,225	100,350	1.278	1.259	-1.5%
12 Milpitas/East San Jose	105,146	154,307	84,901	128,421	1.238	1.202	-3.0%
13 South San Jose	83,240	106,097	68,108	92,312	1.222	1.149	-6.0%
14 Gilroy/Morgan Hill	24,568	37,817	18,745	31,074	1.311	1.217	-7.1%
15 Livermore/Pleasanton	48,739	73,734	38,382	63,455	1.270	1.162	-8.5%
16 Fremont/Union City	97,692	141,582	74,831	116,975	1.306	1.210	-7.3%
17 Hayward/San Leandro	123,962	142,487	95,406	113,634	1.299	1.254	-3.5%
18 Oakland/Alameda	164,540	195,238	102,174	122,607	1.610	1.592	-1.1%
19 Berkeley/Albany	70,492	80,150	35,534	42,130	1.984	1.902	-4.1%
20 Richmond/El Cerrito	78,226	99,036	56,544	72,426	1.383	1.367	-1.2%
21 Concord/Martinez	86,045	108,220	63,877	83,546	1.347	1.295	-3.8%
22 Walnut Creek	61,559	68,067	43,551	50,395	1.413	1.351	-4.4%
23 Danville/San Ramon	29,947	50,057	23,554	42,624	1.271	1.174	-7.6%
24 Antioch/Pittsburg	42,823	75,793	34,235	62,010	1.251	1.222	-2.3%
25 Vallejo/Benicia	42,293	63,999	31,248	48,858	1.353	1.310	-3.2%
26 Fairfield/Vacaville	57,626	94,714	43,697	77,655	1.319	1.220	-7.5%
27 Napa	28,435	35,040	22,378	29,329	1.271	1.195	-6.0%
28 St. Helena	13,255	16,533	9,297	12,350	1.426	1.339	-6.1%
29 Petaluma/Rohnert Park	46,488	70,474	33,968	56,267	1.369	1.252	-8.5%
30 Santa Rosa/Sebastopol	62,174	89,510	49,217	72,768	1.263	1.230	-2.6%
31 Healdsburg/Cloverdale	19,003	30,447	14,324	24,197	1.327	1.258	-5.2%
32 Novato	25,079	29,951	17,548	22,900	1.429	1.308	-8.5%
33 San Rafael	50,043	52,770	33,841	37,600	1.479	1.403	-5.1%
34 Mill Valley/Sausalito	40,557	42,359	26,658	29,244	1.521	1.448	-4.8%
Region	2,480,815	3,085,634	1,734,871	2,284,275	1.430	1.351	-5.5%
San Francisco	336,594	382,309	132,011	166,764	2.550	2.293	-10.1%
San Mateo	305,800	346,559	233,078	271,935	1.312	1.274	-2.9%
Santa Clara	649,443	796,605	519,518	664,606	1.250	1.199	-4.1%
Alameda	505,425	633,191	346,327	458,801	1.459	1.380	-5.4%
Contra Costa	298,600	401,173	221,761	311,001	1.346	1.290	-4.2%
Solano	99,919	158,713	74,945	126,513	1.333	1.255	-5.9%
Napa	41,690	51,573	31,675	41,679	1.316	1.237	-6.0%
Sonoma	127,665	190,431	97,509	153,232	1.309	1.243	-5.1%
Marin	115,679	125,080	78,047	89,744	1.482	1.394	-6.0%

Note: "Average Vehicle Ridership" (AVR) is defined as total workers divided by vehicles used in the journey-to-work.

Table A.13
"Average Vehicle Ridership" by MTC 34 Superdistrict & County, 1980-1990
 (exclude walk, bicycle, work at home)

Superdistrict/County of Residence	1980 Person Commuters	1990 Person Commuters	1980 Vehicles Used in Commute	1990 Vehicles Used in Commute	1980 Average Vehicle Ridership	1990 Average Vehicle Ridership	Percent Change, Vehicle Ridership
1 Downtown San Francisco	32,268	35,894	10,013	13,682	3.223	2.623	-18.6%
2 Richmond District	89,857	97,508	37,705	50,255	2.383	1.940	-18.6%
3 Mission District	111,018	129,184	55,942	69,483	1.985	1.859	-6.3%
4 Sunset District	52,275	56,686	28,351	33,344	1.844	1.700	-7.8%
5 Daly City/San Bruno	118,968	130,896	90,509	102,869	1.314	1.272	-3.2%
6 San Mateo/Burlingame	86,405	99,724	73,193	87,834	1.181	1.135	-3.8%
7 Redwood City/Menlo Park	79,885	91,490	69,376	81,232	1.151	1.126	-2.2%
8 Palo Alto/Los Altos	68,118	76,565	60,458	70,377	1.127	1.088	-3.4%
9 Sunnyvale/Mtn. View	94,862	110,078	82,865	100,527	1.145	1.095	-4.3%
10 Cupertino/Saratoga	142,347	152,571	126,216	141,545	1.128	1.078	-4.4%
11 Central San Jose	91,497	116,711	78,225	100,350	1.170	1.163	-0.6%
12 Milpitas/East San Jose	100,204	148,562	84,901	128,421	1.180	1.157	-2.0%
13 South San Jose	78,969	101,553	68,108	92,312	1.159	1.100	-5.1%
14 Gilroy/Morgan Hill	22,289	34,845	18,745	31,074	1.189	1.121	-5.7%
15 Livermore/Pleasanton	44,993	68,857	38,382	63,455	1.172	1.085	-7.4%
16 Fremont/Union City	91,890	134,762	74,831	116,975	1.228	1.152	-6.2%
17 Hayward/San Leandro	115,614	133,998	95,406	113,634	1.212	1.179	-2.7%
18 Oakland/Alameda	148,500	169,213	102,174	122,607	1.453	1.380	-5.0%
19 Berkeley/Albany	54,355	59,856	35,534	42,130	1.530	1.421	-7.1%
20 Richmond/El Cerrito	73,044	92,578	56,544	72,426	1.292	1.278	-1.1%
21 Concord/Martinez	80,039	100,167	63,877	83,546	1.253	1.199	-4.3%
22 Walnut Creek	56,888	62,495	43,551	50,395	1.306	1.240	-5.1%
23 Danville/San Ramon	28,384	46,928	23,554	42,624	1.205	1.101	-8.6%
24 Antioch/Pittsburg	40,190	71,418	34,235	62,010	1.174	1.152	-1.9%
25 Vallejo/Benicia	38,549	58,883	31,248	48,858	1.234	1.205	-2.3%
26 Fairfield/Vacaville	52,140	88,274	43,697	77,655	1.193	1.137	-4.7%
27 Napa	26,023	32,634	22,378	29,329	1.163	1.113	-4.3%
28 St. Helena	10,568	13,307	9,297	12,350	1.137	1.077	-5.2%
29 Petaluma/Rohnert Park	41,771	64,089	33,968	56,267	1.230	1.139	-7.4%
30 Santa Rosa/Sebastopol	55,482	80,174	49,217	72,768	1.127	1.102	-2.3%
31 Healdsburg/Cloverdale	16,253	26,922	14,324	24,197	1.135	1.113	-1.9%
32 Novato	23,580	27,649	17,548	22,900	1.344	1.207	-10.1%
33 San Rafael	44,067	46,471	33,841	37,600	1.302	1.236	-5.1%
34 Mill Valley/Sausalito	34,976	37,028	26,658	29,244	1.312	1.266	-3.5%
Region	2,246,268	2,797,970	1,734,871	2,284,275	1.295	1.225	-5.4%
San Francisco	285,418	319,272	132,011	166,764	2.162	1.915	-11.5%
San Mateo	285,258	322,110	233,078	271,935	1.224	1.185	-3.2%
Santa Clara	598,286	740,885	519,518	664,606	1.152	1.115	-3.2%
Alameda	455,352	566,686	346,327	458,801	1.315	1.235	-6.1%
Contra Costa	278,545	373,586	221,761	311,001	1.256	1.201	-4.4%
Solano	90,689	147,157	74,945	126,513	1.210	1.163	-3.9%
Napa	36,591	45,941	31,675	41,679	1.155	1.102	-4.6%
Sonoma	113,506	171,185	97,509	153,232	1.164	1.117	-4.0%
Marin	102,623	111,148	78,047	89,744	1.315	1.239	-5.8%

Note: "Average Vehicle Ridership" (AVR) is defined as person commuters divided by vehicles used in the journey-to-work.
 "Person commuter" is defined as drive alone plus carpooling plus transit commuters.

Table A.14

Travelers to Work by Mean Travel Time by MTC 34 Superdistrict & County, 1980-1990

	1980 Total Travelers	1990 Total Travelers	1980 Aggregate Time to Work	1990 Aggregate Time to Work	1980 Average Trip Length	1990 Average Trip Length	Percent Change, Trip Length
1 Downtown San Francisco	52,139	56,214	1,097,237	1,317,682	21.0	23.4	11.4%
2 Richmond District	101,851	111,047	2,566,831	2,899,871	25.2	26.1	3.6%
3 Mission District	116,666	140,465	3,098,321	3,863,535	26.6	27.5	3.6%
4 Sunset District	55,576	60,104	1,683,724	1,804,713	30.3	30.0	-0.9%
5 Daly City/San Bruno	122,227	135,438	2,946,628	3,423,389	24.1	25.3	4.8%
6 San Mateo/Burlingame	90,309	103,968	2,060,097	2,499,339	22.8	24.0	5.4%
7 Redwood City/Menlo Park	86,257	97,621	1,801,452	2,180,019	20.9	22.3	6.9%
8 Palo Alto/Los Altos	80,288	88,026	1,461,468	1,623,909	18.2	18.4	1.3%
9 Sunnyvale/Mtn. View	102,300	115,156	1,881,854	2,163,680	18.4	18.8	2.1%
10 Cupertino/Saratoga	148,260	157,614	3,330,991	3,616,649	22.5	22.9	2.1%
11 Central San Jose	98,506	123,545	2,251,818	2,908,378	22.9	23.5	3.0%
12 Milpitas/East San Jose	104,627	152,085	2,716,624	3,814,272	26.0	25.1	-3.4%
13 South San Jose	82,986	103,737	2,320,399	2,991,026	28.0	28.8	3.1%
14 Gilroy/Morgan Hill	23,749	36,456	627,710	997,500	26.4	27.4	3.5%
15 Livermore/Pleasanton	47,917	71,603	1,218,083	1,870,891	25.4	26.1	2.8%
16 Fremont/Union City	95,271	138,861	2,601,972	3,820,402	27.3	27.5	0.7%
17 Hayward/San Leandro	123,926	139,696	2,915,273	3,547,544	23.5	25.4	8.0%
18 Oakland/Alameda	162,481	182,508	3,895,733	4,652,190	24.0	25.5	6.3%
19 Berkeley/Albany	68,868	75,637	1,629,475	1,826,926	23.7	24.2	2.1%
20 Richmond/El Cerrito	76,638	96,399	1,916,540	2,841,634	25.0	29.5	17.9%
21 Concord/Martinez	85,312	104,198	2,372,879	2,965,567	27.8	28.5	2.3%
22 Walnut Creek	60,808	64,846	1,754,710	1,837,876	28.9	28.3	-1.8%
23 Danville/San Ramon	29,022	48,035	871,245	1,366,961	30.0	28.5	-5.2%
24 Antioch/Pittsburg	41,813	74,042	1,058,222	2,339,816	25.3	31.6	24.9%
25 Vallejo/Benicia	42,431	62,325	977,074	1,875,114	23.0	30.1	30.7%
26 Fairfield/Vacaville	57,262	92,208	1,237,585	2,482,804	21.6	26.9	24.6%
27 Napa	27,851	34,176	559,194	761,685	20.1	22.3	11.0%
28 St. Helena	13,080	15,505	247,918	299,420	19.0	19.3	1.9%
29 Petaluma/Rohnert Park	45,506	67,781	1,185,109	1,806,409	26.0	26.7	2.3%
30 Santa Rosa/Sebastopol	60,626	84,906	1,228,582	1,836,632	20.3	21.6	6.7%
31 Healdsburg/Cloverdale	18,086	28,428	403,916	713,080	22.3	25.1	12.3%
32 Novato	24,257	28,705	763,887	871,716	31.5	30.4	-3.6%
33 San Rafael	48,924	49,349	1,355,358	1,375,796	27.7	27.9	0.6%
34 Mill Valley/Sausalito	38,634	38,864	1,089,193	1,069,528	28.2	27.5	-2.4%
Region	2,434,454	2,979,548	59,127,102	76,265,953	24.3	25.6	5.4%
San Francisco	326,232	367,830	8,446,113	9,885,801	25.9	26.9	3.8%
San Mateo	298,793	337,027	6,808,177	8,102,747	22.8	24.0	5.5%
Santa Clara	640,716	776,619	14,590,864	18,115,414	22.8	23.3	2.4%
Alameda	498,463	608,305	12,260,536	15,717,953	24.6	25.8	5.1%
Contra Costa	293,593	387,520	7,973,596	11,351,854	27.2	29.3	7.9%
Solano	99,693	154,533	2,214,659	4,357,918	22.2	28.2	26.9%
Napa	40,931	49,681	807,112	1,061,105	19.7	21.4	8.3%
Sonoma	124,218	181,115	2,817,607	4,356,121	22.7	24.1	6.0%
Marin	111,815	116,918	3,208,438	3,317,040	28.7	28.4	-1.1%

Table A.15
Workers by Trip Length (Minutes) to Work by MTC 34 Superdistrict & County, 1990

Superdistrict/County of Residence	0 - 9 Minutes	10 - 19 Minutes	20 - 29 Minutes	30 - 44 Minutes	45 - 59 Minutes	60 + Minutes	Total Travelers
1 Downtown San Francisco	6,177	17,600	12,576	13,572	3,291	2,998	56,214
2 Richmond District	8,599	29,020	27,221	29,781	9,170	7,256	111,047
3 Mission District	8,225	35,831	32,195	38,703	14,722	10,789	140,465
4 Sunset District	2,930	11,357	13,713	18,299	8,349	5,456	60,104
5 Daly City/San Bruno	12,594	39,326	30,745	31,711	12,310	8,752	135,438
6 San Mateo/Burlingame	12,789	34,828	19,151	21,558	8,860	6,782	103,968
7 Redwood City/Menlo Park	12,560	34,597	21,153	18,145	6,157	5,009	97,621
8 Palo Alto/Los Altos	15,515	36,597	20,322	10,444	2,270	2,878	88,026
9 Sunnyvale/Mtn. View	15,119	51,663	27,038	14,945	3,210	3,181	115,156
10 Cupertino/Saratoga	15,282	45,161	47,104	37,014	7,689	5,364	157,614
11 Central San Jose	11,423	39,138	30,786	28,857	7,207	6,134	123,545
12 Milpitas/East San Jose	10,746	42,233	41,016	38,701	11,360	8,029	152,085
13 South San Jose	8,524	20,835	22,141	30,304	13,612	8,321	103,737
14 Gilroy/Morgan Hill	7,059	9,721	4,198	5,913	4,974	4,591	36,456
15 Livermore/Pleasanton	10,957	21,850	10,408	12,642	8,337	7,409	71,603
16 Fremont/Union City	13,357	37,139	23,284	36,965	17,080	11,036	138,861
17 Hayward/San Leandro	14,069	41,409	29,670	31,559	13,352	9,637	139,696
18 Oakland/Alameda	17,506	55,999	36,933	42,107	16,426	13,537	182,508
19 Berkeley/Albany	9,505	25,371	13,752	15,396	6,507	5,106	75,637
20 Richmond/El Cerrito	8,695	22,197	17,626	25,088	11,584	11,209	96,399
21 Concord/Martinez	11,558	32,145	16,239	18,626	11,164	14,466	104,198
22 Walnut Creek	7,080	16,860	11,081	14,839	7,503	7,483	64,846
23 Danville/San Ramon	5,939	13,123	7,455	9,958	5,214	6,346	48,035
24 Antioch/Pittsburg	9,127	17,953	10,058	14,567	9,269	13,068	74,042
25 Vallejo/Benicia	7,788	16,999	8,804	11,761	6,783	10,190	62,325
26 Fairfield/Vacaville	14,875	29,927	13,809	13,010	7,963	12,624	92,208
27 Napa	6,983	12,524	4,295	5,385	2,100	2,889	34,176
28 St. Helena	4,931	4,835	2,130	1,853	778	978	15,505
29 Petaluma/Rohnert Park	12,964	18,329	10,484	11,305	6,066	8,633	67,781
30 Santa Rosa/Sebastopol	13,945	35,502	15,693	9,629	3,175	6,962	84,906
31 Healdsburg/Cloverdale	5,455	6,791	6,078	5,754	1,796	2,554	28,428
32 Novato	3,411	6,192	4,715	6,765	3,380	4,242	28,705
33 San Rafael	6,386	13,859	7,649	9,637	5,917	5,901	49,349
34 Mill Valley/Sausalito	4,938	9,159	6,032	10,593	5,136	3,006	38,864
Region	337,011	886,070	605,554	645,386	262,711	242,816	2,979,548
San Francisco	25,931	93,808	85,705	100,355	35,532	26,499	367,830
San Mateo	37,943	108,751	71,049	71,414	27,327	20,543	337,027
Santa Clara	83,668	245,348	192,605	166,178	50,322	38,498	776,619
Alameda	65,394	181,768	114,047	138,669	61,702	46,725	608,305
Contra Costa	42,399	102,278	62,459	83,078	44,734	52,572	387,520
Solano	22,663	46,926	22,613	24,771	14,746	22,814	154,533
Napa	11,914	17,359	6,425	7,238	2,878	3,867	49,681
Sonoma	32,364	60,622	32,255	26,688	11,037	18,149	181,115
Marin	14,735	29,210	18,396	26,995	14,433	13,149	116,918

Table A.16

Share of Workers by Trip Length (Minutes) to Work by MTC 34 Superdistrict & County, 1990

Superdistrict/County of Residence	% 0 - 9 Minutes	% 10 - 19 Minutes	% 20 - 29 Minutes	% 30 - 44 Minutes	% 45 - 59 Minutes	% 60 + Minutes	% Total Travelers
1 Downtown San Francisco	11.0%	31.3%	22.4%	24.1%	5.9%	5.3%	100.0%
2 Richmond District	7.7%	26.1%	24.5%	26.8%	8.3%	6.5%	100.0%
3 Mission District	5.9%	25.5%	22.9%	27.6%	10.5%	7.7%	100.0%
4 Sunset District	4.9%	18.9%	22.8%	30.4%	13.9%	9.1%	100.0%
5 Daly City/San Bruno	9.3%	29.0%	22.7%	23.4%	9.1%	6.5%	100.0%
6 San Mateo/Burlingame	12.3%	33.5%	18.4%	20.7%	8.5%	6.5%	100.0%
7 Redwood City/Menlo Park	12.9%	35.4%	21.7%	18.6%	6.3%	5.1%	100.0%
8 Palo Alto/Los Altos	17.6%	41.6%	23.1%	11.9%	2.6%	3.3%	100.0%
9 Sunnyvale/Mtn. View	13.1%	44.9%	23.5%	13.0%	2.8%	2.8%	100.0%
10 Cupertino/Saratoga	9.7%	28.7%	29.9%	23.5%	4.9%	3.4%	100.0%
11 Central San Jose	9.2%	31.7%	24.9%	23.4%	5.8%	5.0%	100.0%
12 Milpitas/East San Jose	7.1%	27.8%	27.0%	25.4%	7.5%	5.3%	100.0%
13 South San Jose	8.2%	20.1%	21.3%	29.2%	13.1%	8.0%	100.0%
14 Gilroy/Morgan Hill	19.4%	26.7%	11.5%	16.2%	13.6%	12.6%	100.0%
15 Livermore/Pleasanton	15.3%	30.5%	14.5%	17.7%	11.6%	10.3%	100.0%
16 Fremont/Union City	9.6%	26.7%	16.8%	26.6%	12.3%	7.9%	100.0%
17 Hayward/San Leandro	10.1%	29.6%	21.2%	22.6%	9.6%	6.9%	100.0%
18 Oakland/Alameda	9.6%	30.7%	20.2%	23.1%	9.0%	7.4%	100.0%
19 Berkeley/Albany	12.6%	33.5%	18.2%	20.4%	8.6%	6.8%	100.0%
20 Richmond/El Cerrito	9.0%	23.0%	18.3%	26.0%	12.0%	11.6%	100.0%
21 Concord/Martinez	11.1%	30.8%	15.6%	17.9%	10.7%	13.9%	100.0%
22 Walnut Creek	10.9%	26.0%	17.1%	22.9%	11.6%	11.5%	100.0%
23 Danville/San Ramon	12.4%	27.3%	15.5%	20.7%	10.9%	13.2%	100.0%
24 Antioch/Pittsburg	12.3%	24.2%	13.6%	19.7%	12.5%	17.6%	100.0%
25 Vallejo/Benicia	12.5%	27.3%	14.1%	18.9%	10.9%	16.3%	100.0%
26 Fairfield/Vacaville	16.1%	32.5%	15.0%	14.1%	8.6%	13.7%	100.0%
27 Napa	20.4%	36.6%	12.6%	15.8%	6.1%	8.5%	100.0%
28 St. Helena	31.8%	31.2%	13.7%	12.0%	5.0%	6.3%	100.0%
29 Petaluma/Rohnert Park	19.1%	27.0%	15.5%	16.7%	8.9%	12.7%	100.0%
30 Santa Rosa/Sebastopol	16.4%	41.8%	18.5%	11.3%	3.7%	8.2%	100.0%
31 Healdsburg/Cloverdale	19.2%	23.9%	21.4%	20.2%	6.3%	9.0%	100.0%
32 Novato	11.9%	21.6%	16.4%	23.6%	11.8%	14.8%	100.0%
33 San Rafael	12.9%	28.1%	15.5%	19.5%	12.0%	12.0%	100.0%
34 Mill Valley/Sausalito	12.7%	23.6%	15.5%	27.3%	13.2%	7.7%	100.0%
Region	11.3%	29.7%	20.3%	21.7%	8.8%	8.1%	100.0%
San Francisco	7.0%	25.5%	23.3%	27.3%	9.7%	7.2%	100.0%
San Mateo	11.3%	32.3%	21.1%	21.2%	8.1%	6.1%	100.0%
Santa Clara	10.8%	31.6%	24.8%	21.4%	6.5%	5.0%	100.0%
Alameda	10.8%	29.9%	18.7%	22.8%	10.1%	7.7%	100.0%
Contra Costa	10.9%	26.4%	16.1%	21.4%	11.5%	13.6%	100.0%
Solano	14.7%	30.4%	14.6%	16.0%	9.5%	14.8%	100.0%
Napa	24.0%	34.9%	12.9%	14.6%	5.8%	7.8%	100.0%
Sonoma	17.9%	33.5%	17.8%	14.7%	6.1%	10.0%	100.0%
Marin	12.6%	25.0%	15.7%	23.1%	12.3%	11.2%	100.0%

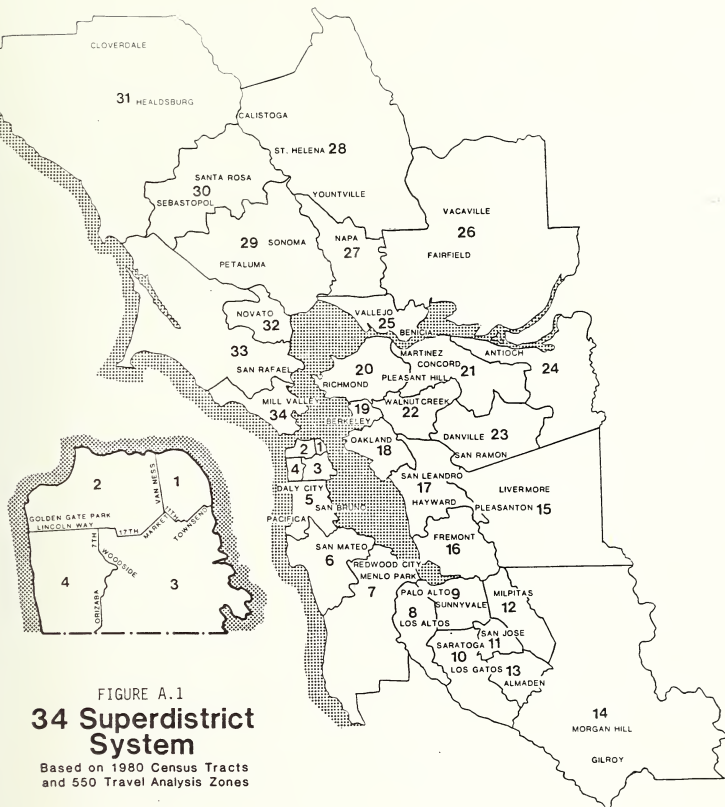
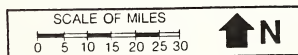


FIGURE A.1
**34 Superdistrict
 System**

Based on 1980 Census Tracts
 and 550 Travel Analysis Zones

MTA
 METROPOLITAN
 TRANSPORTATION
 COMMISSION



APPENDIX B

Travel and Mobility Characteristics Counties Adjacent to Bay Area

APPENDIX B. Travel and Mobility Characteristics: Counties Adjacent to Bay Area

Included in Table B-1 are transportation-related data items for the 12 counties adjacent to the Bay Area. Data is from the 1990 Census STF3A file released on 5/10/92. Comparable data for the nine Bay Area Counties is shown in the second page of Table B-1.

Population and Households. These external counties range in population from 16 thousand residents in Colusa County (Williams) to 1.041 million persons residing in Sacramento County. Average household size ranges from 2.39 persons per household in Lake County (similar to Marin's 2.33 value), to 3.16 persons per household in San Benito County and 3.17 persons per household in Merced County. (By comparison, the largest average household size in the Bay Area is 2.81 persons per household in Santa Clara County.)

Workers. Workers per household ranges from a low of 0.83 in Lake County, 1.15 in Mendocino County, and 1.18 in Colusa County (compared to 1.28 in San Francisco) to highs of 1.41 workers per household in Santa Cruz County, 1.47 workers per household in San Benito, and 1.50 workers per household in Monterey County (compared to 1.56 in Santa Clara County).

Intra-County Commuting. The percent of county workers, working in their county-of-residence, ranges from a low of 57.2 percent in Placer County (Auburn-to-Sacramento commuters), 65.2 percent in San Benito County (Hollister-to-Salinas and Hollister-to-Santa Clara County commuters), and 66.8 percent in Yolo County (Davis-to-Sacramento and Davis-to-Solano County commuters); to highs of 92.2 percent of Monterey County workers and 94.8 percent of Mendocino County workers. The out-commuting share from Placer County is similar to that for Marin (58.6%) and San Mateo (58.1%) Counties in the Bay Area.

Out-commuting. Sacramento County has the greatest number of out-commuters (57.5 thousand), followed by Placer (34.9 thousand), San Joaquin (31.7 thousand), Santa Cruz (25.6 thousand), and Stanislaus Counties (24.4 thousand).

Average commute time. Average commute times range from lows of 16.3 minutes per worker in Colusa County and 16.6 minutes per worker in Mendocino County; to highs of 23.3 minutes per commuter in San Benito and 24.3 minutes in

Santa Cruz Counties. By comparison, five Bay Area Counties have average commute times longer than Santa Cruz average commuters: Contra Costa (29.3 minutes), Marin (28.4 minutes), Solano (28.2 minutes), San Francisco (26.9 minutes), and Alameda (25.8 minutes).

Long commute. The share of county commuters travelling more than 60 minutes from home-to-work ranges from a low of 3.3 percent of Monterey County commuters, 3.6 percent of Yolo County commuters, and 3.7 percent of Sacramento County commuters; to highs of 7.9 percent of San Joaquin County commuters, 8.8 percent of Stanislaus County commuters, 9.4 percent of Santa Cruz County commuters, and 10.3 percent of San Benito County commuters. By comparison, three Bay Area counties had higher shares of long distance commuters than San Benito: Solano County (14.8%), Contra Costa (13.6%), and Marin (11.2%).

Vehicle occupancy. Average vehicle occupancies are very similar to Bay Area occupancies, ranging from a low of 1.077 persons per vehicle in Placer County to a high of 1.122 persons per vehicle in Colusa County. Bay Area averages run from a low of 1.079 persons per vehicle in Santa Clara County to highs of 1.136 persons per vehicle in Solano County and 1.146 persons per vehicle in San Francisco County.

Drive Alone shares. Drive alone shares are typically higher than Bay Area shares, ranging from a low of 66.8 percent of Yolo County and 67.5 percent of Monterey County commuters, to highs of 76.7 percent of Stanislaus and 78.6 percent of Placer County commuters. Santa Clara County (77.7%) has the highest drive alone share of the nine Bay Area Counties.

Carpool shares. Carpool mode shares are also typically higher than Bay Area carpool shares, ranging from a low of 12.1 percent of Placer County commuters to highs of 17.2 percent of Monterey County and 17.5 percent of San Benito County commuters.

Transit shares. Transit mode shares are typically much lower than Bay Area transit shares, ranging from less than one percent in Mendocino, Lake, Colusa, Placer, Stanislaus, Merced and San Benito Counties; to highs of 2.8 percent transit commuters in Sacramento County and 3.3 percent of Santa Cruz County commuters.

Working-at-home shares. Work-at-home shares are similar to Bay Area shares, ranging from lows of 2.8 percent of Sacramento County commuters to a high of 6.0 percent of Mendocino County commuters.

Walk-to-work shares. Walk-to-work shares range from a low of 2.4 percent in Sacramento and Placer Counties to highs of 6.4 percent of Mendocino County and 7.1 percent of Monterey County workers.

Bicycle-to-work shares. Bicycle-to-work shares range from less than one percent of all commuters in Lake, Placer, San Joaquin, Stanislaus, and San Benito Counties; to a standout high of 10.0 percent of all Yolo County (Davis and environs) commuters. The striking Yolo County bicycle commute share of 10.0 percent compares to only 1.5 percent of Santa Clara County workers, 2.1 percent of Santa Cruz County workers, and 1.8 percent of Colusa County workers.

Mean household income. Average (mean) household incomes are typically higher in Bay Area households as compared to adjacent counties. Mean household incomes range from a low of \$28.2 thousand in Lake County to \$46.2 thousand in Placer County and \$46.9 thousand in Santa Cruz County. By comparison, four Bay Area counties have mean household incomes greater than \$47 thousand: Marin (\$67.8), San Mateo (\$59.5), Santa Clara (\$57.9) and Contra Costa County (\$55.0).

Auto ownership. The share of households with no autos available ranges from a low of 4.6% of San Benito and 4.7% of Placer County households; to a high of 9.5 percent of San Joaquin County households. Two Bay Area counties have zero auto ownership shares greater than San Joaquin: San Francisco (30.7% no autos) and Alameda Counties (12.2% of households with no autos). Vehicles per household rates range from lows of 1.73 autos/household in Yolo and Sacramento Counties, to highs of 2.11 in San Benito and 2.07 vehicles/household in Placer County. By comparison, the highest auto ownership rate in the Bay Area is in Santa Clara County (1.99 vehicles per household). At the other extreme, San Francisco has the lowest vehicle ownership rate (1.06 vehicles/household).

Table B.1
Compare Bay Area to Neighboring Counties, 1990
1990 Census – Summary Tape File 3A

1990 Census Variable	Bay Area	Mendocino County	Lake County	Colusa County	Yolo County	Sacramento County	Placer County	San Joaquin County	Stanislaus County	Merced County	San Benito County	Monterey County	Santa Cruz County
Total Population	6,023,577	80,345	50,631	16,275	141,092	1,041,219	172,796	480,628	370,522	178,403	36,697	355,660	229,734
Household Population	5,869,683	78,292	49,634	15,959	134,204	1,019,242	170,564	464,696	364,709	175,311	36,033	334,700	222,230
Total Households	2,246,242	30,419	20,805	5,612	50,972	394,530	64,101	158,659	125,731	55,331	11,422	112,965	83,566
Persons per Household	2.613	2.574	2.386	2.844	2.633	2.583	2.661	2.929	2.901	3.168	3.155	2.963	2.659
Employed Residents	3,151,943	35,092	17,184	6,653	66,438	492,488	83,309	196,197	151,331	70,387	16,814	168,914	118,204
Employed per Household	1.403	1.154	0.826	1.185	1.303	1.248	1.300	1.237	1.204	1.272	1.472	1.495	1.414
Workers at Work	3,085,634	34,379	16,806	6,488	64,555	482,321	81,522	191,111	147,406	68,697	16,530	164,270	115,199
Worked in County of Resid.	2,270,286	32,604	14,233	5,608	43,130	424,777	46,601	159,413	122,957	58,330	10,772	151,520	89,628
% Worked in County of Resid.	73.6%	94.8%	84.7%	86.4%	66.8%	88.1%	57.2%	83.4%	84.9%	84.9%	65.2%	92.2%	77.8%
Worked in Other Counties	815,348	1,775	2,573	880	21,425	57,544	34,921	31,698	24,449	10,367	5,758	12,750	25,571
Mean Minutes Traveled to Work		16.6	22.2	16.3	17.9	21.7	23.6	21.9	22.5	16.9	23.3	18.0	24.3
Commute Time 60+ Minutes		1.598	1.254	2.47	2.261	17.266	4.480	14.616	12.581	2.679	1.642	5.222	10.361
% Commute Time 60+ Minutes		8.1%	7.8%	3.9%	3.6%	3.7%	5.7%	7.9%	8.8%	4.0%	10.3%	3.3%	9.4%
Mean Vehicle Occupancy		1.097	1.112	1.122	1.096	1.091	1.077	1.112	1.094	1.110	1.120	1.130	1.102
Drive Alone Commuters		2,104,716	24,479	11,988	4,654	43,116	365,528	64,109	142,520	49,986	12,151	110,883	81,112
% Drive Alone		68.2%	71.2%	71.3%	66.8%	75.8%	78.6%	74.6%	76.7%	72.8%	73.5%	67.5%	70.4%
Carpool Commuters		399,673	4,595	2,709	1,022	8,240	67,362	9,835	30,879	20,958	2,889	28,287	16,704
% Carpool		13.0%	13.4%	16.1%	15.8%	12.8%	14.0%	12.1%	16.2%	15.6%	17.5%	17.2%	14.5%
Transit Commuters		293,581	166	62	5	1,112	13,666	764	2,272	903	62	3,375	3,782
% Transit		9.5%	0.5%	0.4%	0.1%	1.7%	2.8%	0.9%	0.6%	0.3%	0.4%	2.1%	3.3%
Working at Home Commuters		106,086	2,067	795	232	2,101	13,551	3,429	5,910	5,195	548	5,489	5,479
% Work at Home		3.4%	6.0%	4.7%	3.6%	3.3%	2.8%	4.2%	3.1%	3.5%	3.3%	3.3%	4.8%
Walk to Work Commuters		111,968	2,207	888	227	2,711	11,750	1,993	5,605	4,194	582	11,651	4,349
% Walk to Work		3.6%	6.4%	5.1%	3.5%	2.4%	2.4%	2.9%	2.8%	5.0%	3.5%	7.1%	3.8%
Bicycle Commuters		324,73	408	138	116	6,445	5,331	451	1,573	1,212	81	1,665	2,409
% Bicycle to Work		1.1%	1.2%	0.8%	1.8%	10.7%	1.1%	0.6%	0.8%	1.1%	0.5%	1.0%	2.1%
Mean Household Income		\$52,082	\$33,306	\$28,193	\$35,749	\$37,556	\$39,720	\$46,161	\$37,065	\$33,606	\$44,186	\$43,185	\$46,885
% HH, No Vehicles in Household		236,532	2,155	1,680	399	4,449	33,137	3,020	15,030	8,802	4,626	7,107	5,443
% HH, No Vehicles		10.5%	7.1%	8.1%	7.1%	8.7%	8.4%	9.5%	7.0%	8.4%	4.6%	6.3%	6.5%
Total Household Vehicles		3,950,226	55,925	37,143	10,408	88,405	684,292	132,863	230,931	99,049	24,096	206,551	160,631
Vehicles / Household		1.76	1.84	1.79	1.85	1.73	2.07	1.74	1.84	1.79	2.11	1.83	1.92

Table B.1 (Continued)
Compare Bay Area to Neighboring County, 1990
1990 Census – Summary Tape File 3A

1990 Census Variable	San Francisco County	San Mateo County	San Clara County	Alameda County	Contra Costa County	Solano County	Napa County	Sonoma County	Marin County	Bay Area
Total Population	723,959	649,623	1,497,577	1,279,182	803,732	340,421	110,765	388,222	230,096	6,023,577
Household Population	699,330	637,628	1,463,219	1,242,068	793,585	326,662	105,085	380,558	221,548	5,869,683
Total Households	305,584	241,914	520,180	479,518	300,288	113,429	41,312	149,011	95,006	2,246,242
Persons per Household	2,289	2,636	2,813	2,590	2,643	2,880	2,544	2,554	2,332	2,613
Employed Residents	391,292	353,626	812,345	648,461	409,351	162,219	52,683	194,387	127,579	3,151,943
Employed per Household	1,280	1,462	1,562	1,352	1,363	1,430	1,275	1,305	1,343	1,403
Workers at Work	382,309	346,559	796,605	633,191	401,173	158,713	51,573	190,431	125,080	3,085,634
Worked in County of Resid.	307,400	201,506	710,365	446,162	239,908	97,477	38,431	155,802	73,235	2,270,286
% Worked in County of Resid.	80.4%	58.1%	89.2%	70.5%	59.8%	61.4%	74.5%	81.8%	58.6%	73.6%
Worked in Other Counties	74,909	145,053	86,240	187,029	161,265	61,236	13,142	34,629	51,845	815,348
Mean Minutes Traveled to Work	26.9	24.0	23.3	25.8	29.3	28.2	21.4	24.1	28.4	25.6
Commute Time 60+ Minutes	26,499	20,543	38,498	46,725	52,572	22,814	3,867	18,149	13,149	242,816
% Commute Time 60+ Minutes	7.2%	6.1%	5.0%	7.7%	13.6%	14.8%	7.8%	10.0%	11.2%	8.1%
Mean Vehicle Occupancy	1.146	1.090	1.079	1.098	1.101	1.136	1.089	1.089	1.095	1.097
Drive Alone Commuters	147,187	251,218	618,995	422,775	286,754	114,233	38,766	142,074	82,714	2,104,716
% Drive Alone	38.5%	72.5%	77.7%	66.8%	71.5%	72.0%	75.2%	74.6%	66.1%	68.2%
Carpool Commuters	43,925	45,104	98,163	80,773	55,488	29,320	6,605	24,760	15,535	399,673
% Carpool	11.5%	13.0%	12.3%	12.8%	13.8%	18.5%	12.8%	13.0%	12.4%	13.0%
Transit Commuters	128,160	25,788	23,727	63,138	31,344	3,604	570	4,351	12,899	293,581
% Transit	33.5%	7.4%	3.0%	10.0%	7.8%	2.3%	1.1%	2.3%	10.3%	9.5%
Working at Home Commuters	14,479	9,532	19,986	24,886	13,653	4,180	1,892	9,316	8,162	106,086
% Work at Home	3.8%	2.8%	2.5%	3.9%	3.4%	2.6%	3.7%	4.9%	6.5%	3.4%
Walk to Work Commuters	37,611	8,858	16,509	25,136	7,371	3,916	2,619	6,209	3,739	111,968
% Walk to Work	9.8%	2.6%	2.1%	4.0%	1.8%	2.5%	5.1%	3.3%	3.0%	3.6%
Bicycle Commuters	3,634	2,606	11,675	7,919	1,933	1,187	626	1,975	918	32,473
% Bicycle to Work	1.0%	0.8%	1.5%	1.3%	0.5%	0.7%	1.2%	1.0%	0.7%	1.1%
Mean Household Income	\$45,644	\$59,521	\$57,913	\$45,995	\$55,033	\$43,598	\$46,522	\$44,331	\$67,828	\$52,082
#HH, No Vehicles in Household	93,806	14,683	27,326	58,711	19,129	6,516	2,741	8,741	4,879	236,532
% HH, No Vehicles	30.7%	6.1%	5.3%	12.2%	6.4%	5.7%	6.6%	5.1%	5.1%	10.5%
Total Household Vehicles	323,304	455,620	1,037,689	804,327	572,878	220,208	78,407	282,450	175,343	3,950,226
Vehicles / Household	1.06	1.88	1.99	1.68	1.91	1.94	1.90	1.90	1.85	1.76

FIGURE B.1

Bay Area and Adjacent Counties



APPENDIX C

Travel and Mobility Characteristics Bay Area Cities

APPENDIX C. Travel and Mobility Characteristics: Bay Area Cities

Included in Tables C-1 through C-3 are transportation-related data items for all 162 cities and census designated places within the nine Bay Area counties. The selected data is from the 1990 Census STF3A tape file released on May 10, 1992. City locator maps are included as Figures C-1 through C-8.

The focus of this text is in identifying extremes, though the city planner and transportation analyst is encouraged to use this database in terms of gaining insight into the relative standing of their city of interest with regards to neighboring jurisdictions.

Included in Table C-1 are the raw values for transportation-related data, including: workers, vehicles owned, households by vehicles owned, commuters by mode of travel, and the number of families. Table C-2 shows modal shares and rates (workers per household, autos per household) for all cities. Table C-3 provides other data on household by the three income groups, mean household income, travel time to work, and intra-county commuting.

Workers. The regional workers per household of 1.40 is bracketed by city-level values of 0.47 workers per household in Temelec (Sonoma County), to 1.875 workers per household in Angwin (Napa County). The following is a list of cities at the ends of the workers/household spectrum:

Workers/HH (low, < 1.1)

Temelec (Son)	0.474
Guerneville (Son)	0.880
Sonoma (Son)	0.906
Monte Rio (Son)	0.925
Yountville (Napa)	0.942
Calistoga (Napa)	1.011
Belvedere (Mar)	1.031
Emeryville (Ala)	1.079
Walnut Creek (CC)	1.098

Workers/HH (high, > 1.7)

Angwin (Napa)	2.521
Stanford (SC)	1.875
Milpitas (SC)	1.862
Union City (Ala)	1.775
Hercules (CC)	1.772
North Fair Oaks (SM)	1.761
Clayton (CC)	1.749
Moss Beach (SM)	1.723
Newark (Ala)	1.714

The low, less than one worker per household notes a high degree of retired households within the area; the high workers per household rates indicate a large degree of multiple worker households.

Vehicle ownership. The regional average vehicle ownership rate of 1.76 is bracketed by city values ranging from 1.058 vehicles per household in San Francisco to 2.846 vehicles per household in Los Gatos Hills in Santa Clara County. Cities with vehicle ownership rates greater than 2.5 vehicles per household or less than 1.4 vehicles per household are listed below:

Vehicles/Household (Low, < 1.4)

San Francisco	1.058
Oakland (Ala)	1.284
Berkeley (Ala)	1.297
Emeryville (Ala)	1.319
Temelec (Son)	1.373
Stanford (SC)	1.381

Vehicles/Household (High, > 2.5)

Los Gatos Hills (SC)	2.846
Monte Sereno (SC)	2.836
Woodside (SM)	2.740
Hillsborough (SM)	2.654
Atherton (SM)	2.532
Alamo (CC)	2.523

The low auto ownership levels within the Bay Area are concentrated in the core urban cities of San Francisco, Oakland, Berkeley and Emeryville. The other two communities are retirement communities (Temelec) and university communities (Stanford). The communities with very high vehicle ownership rates are rather affluent suburbs. The high correlation between vehicle ownership and mean household income is quite pronounced in the later discussion on income.

Related to mean vehicle ownership is the percentage of households without an auto available. The regional value of 10.5 percent of households without access to an automobile is bracketed by 0.0 percent zero-auto households in Lexington Hills (Santa Clara County) and Bodega Bay (Sonoma County) to a high of 30.7 percent of all San Francisco households. The following lists communities with zero-auto shares less than 1 percent or greater than 11 percent:

% Zero-auto households (Low, < 1%)

Lexington Hills (SC)	0.0%
Bodega Bay (Son)	0.0%
Los Altos Hills (SC)	0.2%
Loyola (SC)	0.4%
Highlands (SM)	0.6%
Clayton (CC)	0.6%
Hercules (CC)	0.6%
Emerald Lake (SM)	0.7%
Montara (SM)	0.7%
Blackhawk (CC)	0.7%
Ross (Mar)	0.7%
Moraga (CC)	0.8%

% Zero-auto households (High, >11%)

San Francisco	30.7%
Oakland (Ala)	23.3%
Berkeley (Ala)	19.0%
San Pablo (CC)	18.4%
Richmond (CC)	14.5%
Ashland (Ala)	12.5%
Guerneville (Son)	12.5%
Cherryland (Ala)	11.6%
Sonoma (Son)	11.5%
Calistoga (Napa)	11.2%

Drive Alone Commuters. Regionally, 68.2 percent of Bay Area workers drove alone to work in 1990. This ranges from a low of 24.2 percent of Stanford (Santa Clara County) resident workers to a high of 90.0 percent of Highlands (San Mateo County) commuters. The following is a list of Bay Area communities with drive alone commute shares less than 60 percent or greater than 82 percent:

% Drive Alone (Low, < 60%)

Stanford (SC)	24.2%
San Francisco	38.5%
Angwin (Napa)	43.7%
Berkeley (Ala)	45.3%
Albany (Ala)	54.0%
Alameda (Ala)	54.5%
Sausalito (Mar)	54.7%
North Fair Oaks (SM)	55.9%
Daly City (SM)	56.6%
Temelec (Son)	56.8%
Oakland (Ala)	57.0%
San Pablo (CC)	57.1%
Emeryville (Ala)	58.4%
Colma (SM)	58.4%
El Cerrito (CC)	59.4%
Calistoga (Napa)	59.8%

% Drive Alone (High, > 82%)

Highlands (SM)	90.0%
Los Altos (SC)	85.8%
Saratoga (SC)	85.7%
Los Gatos (SC)	84.6%
Cupertino (SC)	84.3%
Emerald Lake (SM)	83.7%
Larkfield Wikiup (Son)	83.4%
Rancho Rinconada (SC)	82.9%
Los Altos Hills (SC)	82.5%
Alamo (CC)	82.5%
Monte Rio (Son)	82.5%
Pleasanton (Ala)	82.3%
Sunnyvale (SC)	82.0%

Carpool Commuters. Thirteen percent of Bay Area workers carpooled to work in 1990, according to the 1990 Census. Community carpool shares range from a low of 2.5 percent of Atherton (San Mateo County) resident workers to a high of 25.9 percent of Temelec (Sonoma County) commuters. The following is a list of Bay Area communities with carpool commute shares less than 6 percent or greater than 20 percent:

% Carpool (Low, < 6%)

Atherton (SM)	2.5%
Stanford (SC)	3.3%
Highlands (SM)	3.4%
Los Altos (SC)	4.2%
Ross (Mar)	4.7%
Deer Park (Napa)	4.8%
Belvedere (Mar)	5.0%
Portola Valley (SM)	5.2%
Palo Alto (SC)	5.9%

% Carpool (High, > 20%)

Temelec (Son)	25.9%
San Pablo (CC)	25.2%
Hercules (CC)	25.0%
Bayview (CC)	23.9%
North Fair Oaks (SM)	23.3%
Vallejo (Sol)	22.3%
American Canyon (Nap)	21.4%
Suisun City (Sol)	21.0%
Woodacre (Mar)	21.0%
West Pittsburg (CC)	20.8%
Daly City (SM)	20.1%

Transit Commuters. Regionally, 9.5 percent of Bay Area workers took public transit to work in 1990. Community transit shares range from a low of 0.0 percent of workers in 10 Bay Area communities, to a high of 33.5 percent of San Francisco resident commuters. The following is a list of Bay Area communities with transit commute shares less than 0.5 percent or greater than 12 percent:

% Transit (Low, < 0.5%)

Deer Park (Napa)	0.0%
Bodega Bay (Son)	0.0%
Rio Vista (Sol)	0.0%
Lexington Hills (SC)	0.0%
Bolinas (Son)	0.0%
Glen Ellen (Son)	0.0%
Angwin (Napa)	0.0%
Yountville (Napa)	0.0%
Graton (Son)	0.0%
Calistoga (Napa)	0.0%
Dixon (Sol)	0.1%
Monte Sereno (SC)	0.2%
Discovery Bay (CC)	0.2%
St. Helena (Napa)	0.3%
Vine Hill Pacheco (CC)	0.3%
Bethel Island (CC)	0.5%

% Transit (High, > 12%)

San Francisco	33.5%
Daly City (SM)	18.7%
Sausalito (Mar)	18.4%
Oakland (Ala)	17.9%
El Cerrito (CC)	17.7%
Albany (Ala)	16.5%
Berkeley (Ala)	15.2%
Colma (SM)	14.6%
Tiburon (Mar)	14.3%
Belvedere (Mar)	13.9%
Kensington (CC)	13.2%
Emeryville (Ala)	12.9%
Kentfield (Mar)	12.8%
Richmond (CC)	12.7%
Larkspur (Mar)	12.4%
Alameda (Ala)	12.1%
Walnut Creek (CC)	12.1%

Walk-to-Work Commuters. Of the 3 million Bay Area workers in 1990, nearly 112 thousand, or 3.6 percent, walked to work. Community walk shares range from a low of 0.0 percent of workers in Monte Rio (Sonoma County), to a high of 40.7 percent of Angwin (Napa County) resident commuters. The following is a list of Bay Area communities with walk commute shares less than 1.0 percent or greater than 8 percent:

% Walk (Low, < 1.0%)

Monte Rio (Son)	0.0%
Hercules (CC)	0.3%
El Sobrante (CC)	0.4%
Tiburon (Mar)	0.5%
Highlands (SM)	0.6%
Los Altos Hills (SC)	0.6%
Montara (SM)	0.6%
Loyola (SC)	0.7%
East Richmond Hts (CC)	0.7%
East Foothills (SC)	0.7%

% Walk (High, > 8%)

Angwin (Napa)	40.7%
Stanford (SC)	18.3%
Berkeley (Ala)	16.8%
Calistoga (Napa)	14.1%
Deer Park (Napa)	12.2%
Bolinas (Son)	10.2%
San Francisco	9.8%
Sonoma (Son)	9.1%
Rio Vista (Sol)	8.7%
Atherton (SM)	8.6%

San Lorenzo (Ala)	0.7%	Yountville (Napa)	8.4%
Orinda (CC)	0.8%	St Helena (Napa)	8.4%
Windsor (Son)	0.8%		
Rancho Rinconada (SC)	0.8%		
Fairview (Ala)	0.8%		
Tara Hills (CC)	0.8%		
Clayton (CC)	0.9%		
Alamo (CC)	0.9%		
Saratoga (SC)	0.9%		

Work-at-Home Commuters. Regionally, 3.4 percent of Bay Area workers worked at home during the last week of March, 1990, according to the 1990 Census.

Community work-at-home shares range from a low of 0.6 percent of workers in Bayview-Montalvin (Contra Costa County), to a high of 16.2 percent of Inverness (Marin County) resident commuters. The following is a list of Bay Area communities with work-at-home commute shares less than 1.5 percent or greater than 9.0 percent:

<u>% At Home (Low, < 1.5%)</u>		<u>% At Home (High, > 9%)</u>	
Bayview (CC)	0.6%	Inverness (Mar)	16.2%
Fetters Hot Springs (Son)	1.0%	Alameda (Ala)	16.1%
South San Francisco (SM)	1.2%	Bolinas (Mar)	13.2%
Brentwood (CC)	1.2%	Woodside (SM)	12.5%
San Pablo (CC)	1.2%	Graton (Son)	12.1%
Daly City (SM)	1.3%	Belvedere (Mar)	11.7%
San Leandro (Ala)	1.3%	Sausalito (Mar)	9.6%
Yountville (Napa)	1.3%	Ross (Mar)	9.4%
Brisbane (SM)	1.4%	Bodega Bay (Son)	9.4%
Rancho Rinconada (SC)	1.4%	Tiburon (Mar)	9.3%
		Piedmont (Ala)	9.3%

Average Vehicle Occupancy. Average vehicle occupancy is determined by dividing drive alone plus carpool commuters into the number of drive alone drivers plus carpool drivers. The Bay Area regional average vehicle occupancy in 1990 was 1.097 persons per vehicle. A value of 1.00 means 0.0% carpooling. Community vehicle occupancy rates range from a low of 1.019 persons per vehicle in Atherton (San Mateo County), to a high of 1.226 persons/vehicle in Temelec (Sonoma County). The following is a list of Bay Area communities with average vehicle occupancy rates less than 1.05 or greater than 1.13:

<u>Avg. Vehicle Occupancy (Low, < 1.05)</u>		<u>Avg. Vehicle Occupancy (High, > 1.13)</u>	
Atherton (SM)	1.019	Temelec (Son)	1.226

Highlands (SM)	1.020	San Pablo (CC)	1.208
Los Altos (SC)	1.025	North Fair Oaks (SM)	1.202
Deer Park (Napa)	1.030	Hercules (CC)	1.192
Portola Valley (SM)	1.034	Bayview (CC)	1.175
Ross (Mar)	1.035	Vallejo (Sol)	1.174
Belvedere (Mar)	1.038	Daly City (SM)	1.168
Palo Alto (SC)	1.040	Suisun City (Sol)	1.154
Saratoga (SC)	1.043	West Pittsburg (CC)	1.147
Bodega Bay (Son)	1.044	San Francisco	1.146
West Menlo Park (SM)	1.044	Emeryville (Ala)	1.146
Los Gatos (SC)	1.045	Colma (SM)	1.146
Cupertino (SC)	1.046	Woodacre (Mar)	1.144
Los Altos Hills (SC)	1.046	American Canyon (Napa)	1.142
San Carlos (SM)	1.047	Pittsburg (CC)	1.138
Loyola (SC)	1.048	Calistoga (Napa)	1.135
Monte Sereno (SC)	1.048	East Palo Alto (SM)	1.134
Emerald Lake (SM)	1.049	Fairfield (Sol)	1.131
Rio Vista (Sol)	1.050		

Average Vehicle Ridership. Average vehicle ridership (AVR) is a coined term expressed as the ratio of total workers at work by the number of vehicle driver commuters. The Bay Area regional AVR in 1990 was 1.351 total persons per commute vehicle. A value of 1.00 means 100% drive alone commuting. Community AVRs range from a low of 1.091 in Highlands (San Mateo County), to a high of 3.897 persons/vehicle in Stanford (Santa Clara County). The AVRs shown in Table C-2 are by place-of-residence, *not* by place-of-work. The following is a list of Bay Area communities with average vehicle ridership rates less than 1.16 or greater than 1.50:

<u>Avg. Vehicle Ridership (Low, < 1.16)</u>		<u>Avg. Vehicle Ridership (High, > 1.50)</u>	
Highlands (SM)	1.091	Stanford (SC)	3.897
Monte Rio (Son)	1.117	San Francisco	2.293
Saratoga (SC)	1.125	Angwin (Napa)	2.043
Los Gatos (SC)	1.137	Berkeley (Ala)	2.019
Cupertino (SC)	1.138	Alameda (Ala)	1.686
Los Altos (SC)	1.140	Albany (Ala)	1.664
Rancho Rinconada (SC)	1.141	Sausalito (Mar)	1.637
Larkfield (Son)	1.142	Oakland (Ala)	1.587
Emerald Lake (SM)	1.144	El Cerrito (CC)	1.531
Dixon (Sol)	1.147	Emeryville (Ala)	1.528
Pleasanton (Ala)	1.147	Daly City (SM)	1.523
San Ramon (CC)	1.154	North Fair Oaks (SM)	1.517
Sunnyvale (SC)	1.155	Calistoga (Napa)	1.505
Foster City (SM)	1.159	Belvedere (Mar)	1.503

Mean Household Income. Mean (average) household income from the 1990 Census is measured in 1989 dollars. The Bay Area regional mean household income was \$52,082, according to the 1990 Census. Community average household incomes range from a low of \$28,456 in Guerneville (Sonoma County), to a high of \$192,188 per household income in Atherton (San Mateo County). The following is a list of Bay Area communities with mean household incomes less than 36 thousand or greater than 120 thousand:

Mean HH Income (Low, < \$36,000)

Guerneville (Son)	\$28,456
Monte Rio (Son)	\$28,775
San Pablo (CC)	\$29,632
Roseland (Son)	\$32,076
Ashland (Ala)	\$32,647
Cherryland (Ala)	\$32,770
East Palo Alto (SM)	\$33,688
Fetters Hot Springs (Son)	\$34,881
Boyes Hot Springs (Son)	\$35,130
Burbank (SC)	\$35,520
Graton (Son)	\$35,563
Calistoga (Nap)	\$35,884

Mean HH Income (High, >\$120,000)

Atherton (SM)	\$192,188
Woodside (SM)	\$191,309
Hillsborough (SM)	\$185,381
Los Altos Hills (SC)	\$178,928
Blackhawk (CC)	\$162,569
Belvedere (Mar)	\$159,633
Ross (Mar)	\$159,512
Portola Valley (SM)	\$142,779
Monte Sereno (SC)	\$135,655
Alamo (CC)	\$125,841
Piedmont (Ala)	\$122,484
Tiburon (Mar)	\$120,270

Commute Time. Two variables are shown to categorize commute times by Bay Area community: percent of commuters travelling greater than 60 minutes from home-to-work; and average commute time for all workers residing in a community. In the Bay Area in 1990, 8.1 percent of all commuters travelled greater than 60 minutes from home-to-work. The average one-way commute time for Bay Area commuters in 1990 was 25.6 minutes. The following is a list of Bay Area communities with percent of commuters greater than 60 minutes, less than 3.0 percent or greater than 17 percent of all commuters:

% Commuters, > 60 minutes (Low, < 3%)

Deer Park (Napa)	0.9%
Stanford (SC)	1.1%
Angwin (Napa)	1.3%
Rancho Rinconada (SC)	1.7%
Highlands (SM)	2.1%
Santa Clara (SC)	2.6%
Cupertino (SC)	2.7%
Mountain View (SC)	2.8%
Sunnyvale (SC)	2.8%
Saratoga (SC)	3.0%

% Commuters, > 60 minutes (High, > 17%)

Bolinas (Mar)	35.1%
Discovery Bay (CC)	28.8%
Bethel Island (CC)	25.2%
Oakley (CC)	23.6%
Temelec (Son)	23.3%
Hercules (CC)	21.7%
Suisun City (Sol)	21.5%
Brentwood (CC)	20.0%
Clayton (CC)	19.9%
San Martin (SC)	19.8%

Inverness (Mar)	19.2%
Blackhawk (CC)	17.1%
Pittsburg (CC)	17.0%

The following is a list of Bay Area communities with average commute times less than 20 minutes, or greater than 33 minutes, from home-to-work:

<u>Avg. Commute Time (Low, < 20 minutes)</u>		<u>Avg. Commute Time (High, > 33 minutes)</u>	
Stanford (SC)	10.2	Discovery Bay (CC)	41.7
Angwin (Napa)	11.0	Bolinas (Mar)	40.8
Deer Park (Napa)	14.2	Bethel Island (CC)	38.0
St. Helena (Napa)	15.2	Hercules (CC)	37.6
Rio Vista (Sol)	16.0	Temelec (Son)	36.6
Mountain View (SC)	18.4	Oakley (CC)	36.5
Yountville (Napa)	18.6	Monte Rio (Son)	35.5
Sunnyvale (SC)	19.0	Woodacre (Mar)	33.7
Palo Alto (SC)	19.0	Montara (SM)	33.6
Santa Clara (SC)	19.1	Clayton (CC)	33.5
Healdsburg (Son)	19.2	Suisun City (Sol)	33.2
Atherton (SM)	19.8	Lagunitas (Mar)	33.1
Calistoga (Napa)	19.9		

Intra-County Commuting. About 73.6 percent of Bay Area commuters lived-and-worked in their county-of-residence in 1990. This ranged, by community, from a low of 18.0 percent intra-county commuting in American Canyon (Napa County) to a high of 96.5 percent intra-county commuting in Angwin (also in Napa County). Low values of intra-county commute share denote a "bedroom" community (or a "border" community), with most workers commuting long distances to jobs outside their county of residence; high values indicate a reasonable local supply of available job opportunities. The following is a list of Bay Area communities with percent of commuters working within their county-of-residence, less than 44 percent or greater than 93 percent of all commuters:

<u>% Intra-County Commuters (Low, < 44%)</u>		<u>% Intra-County Commuters (High, > 93%)</u>	
American Canyon (Napa)	18.0%	Angwin (Napa)	96.5%
El Cerrito (CC)	30.0%	Occidental (Son)	95.3%
Kensington (CC)	30.1%	Lexington Hills (SC)	94.9%
Daly City (SM)	35.6%	San Martin (SC)	94.9%
Sausalito (Mar)	38.3%	Healdsburg (Son)	94.8%
Hercules (CC)	40.8%	Deer Park (Napa)	94.4%
Broadmoor (SM)	42.7%	Morgan Hill (SC)	94.4%
East Richmond (CC)	42.8%	Graton (Son)	94.1%
Benicia (Sol)	42.8%	Stanford (SC)	93.2%
Richmond (CC)	43.3%		

Table C-1. Transportation-Related Data at Place-of-Residence, 1990 Census STEEA

City	Place	Employed Residents	HH AO=0	HH AO=1	HH AO=2	HH AO=3+	Total HH	Owned Alone	Drive Carpool	Transit	Walk	Other	At Home	Work Bicycle	Shared Ride 2+	Total Pop	Vehicle Families
San Francisco	San Francisco	391,292	93,806	127,271	64,379	20,128	305,584	323,304	147,187	43,925	126,160	37,611	10,947	14,479	36,834	223,939	143,818
San Francisco	San Francisco	3,525	34	267	1,047	1,055	2,403	6,084	2,559	88	165	297	50	310	33	59	29
San Francisco	San Francisco	14,885	544	2,853	4,236	2,470	10,105	19,811	11,592	1,463	671	391	126	411	63	1,265	198
San Francisco	San Francisco	1,705	99	456	468	289	1,340	2,322	1,283	238	74	42	26	24	8	180	58
San Francisco	San Francisco	1,885	44	369	468	329	1,210	2,418	1,287	275	149	61	16	42	0	257	18
San Francisco	San Francisco	15,072	974	5,182	4,234	1,939	12,329	20,175	11,265	1,367	1,124	409	272	381	149	1,194	173
San Francisco	San Francisco	577	39	127	164	71	401	679	329	104	82	28	4	16	0	88	16
San Francisco	San Francisco	48,796	2,507	10,665	10,004	5,887	29,063	50,830	26,817	9,532	8,963	893	697	618	48	7,374	422
San Francisco	San Francisco	10,065	651	2,903	1,940	1,459	6,953	11,942	6,622	1,859	808	191	210	179	147	1,437	482
San Francisco	San Francisco	2,902	43	323	737	507	1,605	3,563	1,835	364	51	30	0	131	0	286	78
San Francisco	San Francisco	1,893	8	212	492	476	1,188	2,293	1,566	149	40	19	12	84	5	123	26
San Francisco	San Francisco	17,629	190	3,121	5,145	2,754	11,210	22,808	14,211	1,727	670	174	212	435	67	1,558	169
San Francisco	San Francisco	5,142	138	845	1,313	841	3,137	6,422	3,695	837	106	107	91	238	20	631	206
San Francisco	San Francisco	1,317	5	115	392	353	865	2,093	1,182	45	35	8	5	38	5	34	11
San Francisco	San Francisco	4,905	36	382	1,458	1,750	3,626	9,624	3,735	433	178	68	86	344	14	338	95
San Francisco	San Francisco	14,481	700	4,707	4,422	1,988	11,817	20,529	10,621	1,164	502	474	825	605	641	996	168
San Francisco	San Francisco	10,137	510	2,439	3,119	1,865	7,933	15,114	7,863	1,010	495	250	633	287	12	865	145
San Francisco	San Francisco	1,433	6	197	311	354	868	1,999	1,042	184	68	9	11	82	0	171	13
San Francisco	San Francisco	1,887	28	219	476	372	1,095	2,247	1,333	359	58	21	15	69	0	275	84
San Francisco	San Francisco	6,784	281	1,261	1,417	863	3,852	7,247	3,771	1,573	520	357	279	242	180	974	599
San Francisco	San Francisco	21,504	558	3,562	5,569	3,651	13,340	27,485	15,044	3,212	1,763	318	269	365	70	2,529	683
San Francisco	San Francisco	2,085	62	248	667	653	1,630	3,983	1,677	108	31	92	26	144	11	82	26
San Francisco	San Francisco	36,585	1,761	8,353	10,048	5,331	25,493	46,719	27,165	4,244	1,371	1,207	817	1,003	395	3,551	693
San Francisco	San Francisco	21,256	873	5,005	5,623	3,139	14,640	26,828	15,519	2,812	1,288	365	362	411	121	2,276	536
San Francisco	San Francisco	15,106	502	3,212	4,674	2,656	11,044	21,538	12,145	1,137	601	290	214	472	97	1,012	125
San Francisco	San Francisco	48,187	2,571	13,221	13,436	6,252	35,480	61,342	35,586	5,201	3,139	1,487	704	1,075	297	4,034	1,167
San Francisco	San Francisco	28,127	1,356	5,747	7,010	4,406	18,519	34,869	19,231	4,561	2,541	550	362	330	89	3,518	1,043
San Francisco	San Francisco	2,170	28	556	708	353	1,645	3,144	1,700	155	94	38	23	65	16	147	8
San Francisco	San Francisco	2,670	22	205	611	975	1,813	4,967	1,985	211	38	79	17	334	17	204	7
San Francisco	San Francisco	11,316	114	1,638	3,323	2,270	7,350	16,079	8,558	692	263	561	265	797	101	542	150
San Francisco	San Francisco	2,593	193	838	659	341	2,032	3,374	2,051	242	109	37	82	43	50	242	0
San Francisco	San Francisco	1,511	23	181	485	363	1,052	2,412	1,180	122	44	39	55	51	25	89	33
San Francisco	San Francisco	21,837	983	5,110	5,866	3,247	15,306	28,284	17,322	2,266	537	353	402	517	199	1,905	361
San Francisco	San Francisco	23,551	426	3,586	7,278	4,068	15,358	32,155	19,501	1,766	387	463	356	667	168	1,540	226
San Francisco	San Francisco	7,009	203	1,127	1,770	1,512	4,412	9,974	5,293	1,096	139	50	47	199	7	919	177
San Francisco	San Francisco	14,748	588	2,575	4,045	2,204	9,512	18,705	10,789	2,607	194	350	292	266	196	1,850	757
San Francisco	San Francisco	1,255	0	138	362	341	841	2,050	1,001	114	0	32	23	54	0	74	40
San Francisco	San Francisco	13,727	143	1,782	4,719	3,193	9,837	22,093	11,603	563	189	145	284	738	204	470	93
San Francisco	San Francisco	3,839	5	161	1,016	1,424	2,606	7,417	3,093	273	45	24	67	245	24	221	52
San Francisco	San Francisco	16,056	454	3,087	4,655	3,077	11,273	23,078	13,356	1,152	192	284	223	579	117	943	209
San Francisco	San Francisco	1,550	4	145	594	382	1,125	2,726	1,233	107	62	11	10	89	10	74	33
San Francisco	San Francisco	26,257	409	2,764	6,055	4,871	14,099	31,906	19,593	4,072	760	331	463	538	106	3,440	632
San Francisco	San Francisco	1,813	16	92	367	688	1,163	3,298	1,461	142	4	24	36	142	22	137	5
San Francisco	San Francisco	12,340	293	1,691	3,277	2,547	7,808	16,996	9,628	1,514	280	124	190	372	52	1,347	67
San Francisco	San Francisco	42,888	1,633	12,673	11,421	4,263	29,990	49,890	32,523	4,410	2,871	1,158	1,385	919	849	3,712	698
San Francisco	San Francisco	32,284	1,455	8,512	9,488	4,788	24,006	43,881	23,917	1,861	796	1,270	2,127	1,749	1,827	1,579	282
San Francisco	San Francisco	2,339	18	263	708	444	1,433	3,173	1,891	222	44	18	72	33	49	207	15

Table C-1 Transportation-Related Data at Place of Residence, 1990 Census STF3A

County	Place	Employed Residents	HH AO=0	HH AO=1	HH AO=2	HH AO=3+	Total HH	Owned Vehicles	Drive Alone	Corpool	Transit	Walk	Other	At Home	Work	Shared Bicycle	Shared Ride=2	Shared Ride=3	Total Pop.	Vehicle Families	Driver
CC	San Jose	408,881	14,863	66,370	101,381	67,973	250,187	505,391	306,311	58,465	11,084	6,495	5,829	7,748	2,466	47,681	10,984	782,235	186,149	335,360	
CC	San Martin	805	33	125	133	195	486	1,072	536	76	51	49	0	65	0	59	17	1,750	408	568	
CC	Santa Clara	54,805	2,222	12,384	14,209	7,730	36,545	67,472	42,845	5,612	1,313	1,735	1,233	949	680	4,910	702	93,613	22,418	45,512	
CC	Saratoga	14,437	145	2,497	4,365	4,233	10,040	1,008	1,224	1,008	122	131	176	999	56	787	221	28,061	8,365	12,661	
CC	Stanford	8,834	465	1,307	3,980	465	1,970	2,651	1,970	265	114	149	3,857	452	3,713	214	51	18,097	1,882	2,092	
CC	Sunnyvale	70,459	2,088	17,019	19,456	48,296	89,491	56,825	66,571	1,760	1,110	1,401	1,569	629	5,828	629	117,229	29,828	59,995		
CC	Unincorporated	28,558	663	3,362	6,871	9,736	17,652	41,909	20,869	3,351	764	785	615	1,393	206	2,853	698	54,202	13,748	22,483	
ALA	Alameda	44,553	2,629	12,332	10,252	3,865	29,078	62,857	23,810	4,648	5,290	1,647	1,258	7,015	661	3,491	1,157	764,539	17,843	25,902	
ALA	Albany	8,603	679	3,466	2,400	607	7,192	10,330	4,544	1,161	1,900	379	529	407	396	812	349	16,327	4,306	5,054	
ALA	Ashland	7,538	841	2,840	2,186	855	6,722	10,132	5,267	857	755	125	113	116	24	635	222	16,590	4,243	5,647	
ALA	Berkeley	56,024	8,247	19,607	11,492	4,107	43,453	56,378	24,742	5,363	8,296	9,152	3,702	3,335	2,651	3,368	1,995	102,774	19,127	27,038	
ALA	Castro Valley	25,145	891	5,052	7,997	5,088	19,028	38,569	19,258	2,494	1,198	439	367	718	0	2,029	465	46,279	13,575	20,404	
ALA	Cherryland	4,875	504	1,741	1,397	696	4,338	6,916	3,863	621	395	106	149	101	78	476	145	11,088	2,638	3,668	
ALA	Dublin	10,993	105	1,395	3,275	2,027	6,802	14,144	8,603	1,223	220	239	146	364	55	1,075	148	22,223	5,116	9,183	
ALA	Emeryville	3,483	283	1,917	828	199	3,227	4,255	1,962	559	435	132	111	163	41	346	213	5,740	1,120	2,200	
ALA	Fairview	4,971	40	552	1,288	1,229	3,109	747	3,714	628	301	40	76	129	20	496	132	9,045	2,437	4,000	
ALA	Fremont	96,579	1,923	14,209	17,419	16,647	60,198	125,741	73,681	12,018	4,215	1,125	1,647	1,969	469	9,520	1,498	173,339	45,632	79,154	
ALA	Hayward	55,832	3,157	13,868	25,140	7,952	40,117	71,535	38,797	7,631	4,215	1,261	1,139	969	315	6,145	1,486	111,498	28,023	42,316	
ALA	Livermore	31,319	794	4,869	9,045	5,935	20,643	43,177	24,675	3,298	461	538	890	824	565	2,570	728	56,741	15,401	26,179	
ALA	Newark	20,592	331	2,586	5,253	3,845	12,015	26,712	15,179	3,392	686	214	317	348	118	2,615	777	37,861	9,710	16,711	
ALA	Oakland	164,394	33,660	58,532	36,253	16,056	144,521	185,525	91,214	22,546	28,637	7,787	4,134	5,842	1,738	14,725	7,821	372,422	85,011	100,911	
ALA	Piedmont	5,247	81	756	1,830	1,098	3,755	8,067	3,347	674	441	197	48	481	18	314	360	10,602	2,959	3,622	
ALA	Pleasanton	30,039	398	3,997	8,569	5,520	18,484	39,813	24,344	3,097	473	421	450	795	210	2,596	501	50,553	14,184	25,785	
ALA	San Leandro	34,156	2,855	10,439	10,290	5,544	29,128	49,610	24,628	3,942	3,093	814	646	443	177	3,193	749	68,223	18,253	26,449	
ALA	San Lorenzo	9,646	362	1,829	3,064	2,096	7,341	15,289	7,465	997	513	70	121	178	49	886	191	19,987	5,677	7,923	
ALA	Union City	27,869	600	3,863	6,371	4,867	15,701	33,649	19,474	4,598	1,822	346	450	397	102	3,219	1,369	53,762	13,185	21,480	
ALA	Unincorporated	6,653	311	1,200	1,626	1,626	4,666	10,330	4,686	1,036	188	104	190	292	115	897	139	14,553	3,448	5,174	
CC	Alamo	6,151	43	465	1,827	1,884	4,219	10,486	5,055	488	240	55	28	258	10	346	12	12,277	3,694	5,270	
CC	Antioch	29,735	1,344	5,790	9,111	5,156	21,401	41,266	22,789	4,168	606	416	522	578	113	3,244	924	62,195	16,791	24,670	
CC	Bayview-Montalvin	1,759	48	242	407	398	1,175	2,765	1,139	406	112	25	10	10	0	274	132	3,988	1,019	1,315	
CC	Belhel Island	1,139	34	317	388	260	999	1,978	801	161	6	39	23	143	0	145	16	2,264	630	888	
CC	Blackhawk	3,262	15	192	1,033	781	2,021	4,950	2,632	334	88	32	7	143	0	252	82	6,199	1,968	2,784	
CC	Brentwood	3,396	178	666	1,010	621	2,475	4,734	2,400	547	48	184	77	40	34	426	121	7,563	1,975	2,647	
CC	Clayton	4,079	15	259	1,173	885	2,332	5,602	3,067	395	280	35	48	133	5	265	130	7,317	2,094	3,233	
CC	Concord	61,005	2,547	13,044	17,549	8,800	41,940	78,106	42,123	7,763	5,807	1,194	1,141	1,720	402	5,774	1,989	111,348	29,346	45,528	
CC	Crockett	1,681	124	374	600	320	1,418	2,686	1,199	256	64	54	7	68	0	217	39	3,228	871	1,319	
CC	Danville	17,274	128	1,672	5,577	3,687	11,064	25,518	13,629	1,609	657	230	235	692	52	1,124	485	31,306	9,204	14,316	
CC	Discovery Bay	3,125	22	315	1,033	715	2,085	4,727	2,354	581	7	39	37	107	9	504	77	5,351	1,712	2,628	
CC	East Richmond Heights	1,828	21	368	569	361	1,319	2,776	1,352	197	129	13	28	56	8	116	81	3,266	917	1,434	
CC	El Cerrito	11,666	685	3,747	5,799	1,613	9,924	16,949	6,795	1,518	2,026	269	337	498	183	1,066	452	22,869	6,372	7,472	
CC	El Sobrante	4,789	272	1,099	1,570	963	3,904	7,536	3,462	707	239	18	94	114	19	577	130	9,852	2,714	3,792	
CC	Hercules	9,406	33	1,181	2,973	1,721	5,308	11,998	6,033	2,285	574	23	85	135	13	1,329	956	16,829	4,300	6,981	
CC	Kensington	2,702	112	768	914	403	2,197	3,915	1,689	314	356	57	36	240	31	213	101	4,974	1,435	1,841	
CC	Lafayette	12,540	300	1,811	4,143	2,772	8,976	19,470	8,443	1,140	1,445	375	212	880	50	642	498	23,501	6,370	8,917	
CC	Marinez	17,455	524	3,712	5,699	2,804	12,539	24,165	13,215	2,005	1,020	237	245	366	80	1,423	582	32,038	8,797	14,075	
CC	Merced	8,136	43	1,212	2,888	1,419	5,562	11,662	5,458	1,116	807	248	118	242	40	659	457	15,852	4,369	5,929	
CC	Oakley	8,552	284	1,169	2,686	1,751	5,890	12,570	6,276	1,501	167	81	83	225	6	1,134	367	18,225	4,886	6,550	

Table C-1 Transportation-Related Data at Place-of-Residence, 1990 Census STF3A

[illegible]

Table C-1 Transportation-Related Data at Place-of-Residence, 1990 Census STF3A

City	Place	Employed Residents	HH AO=0	HH AO=1	HH AO=2	HH AO=3+	HH Total	Vehicles Owned	Drive Alone	Carpool	Transit	Walk	Other At Home	Work Bicycle	Shared Ride+Pop.	Total	Vehicle Driver			
SON	Roseland	3,849	305	1,024	874	635	2,838	4,343	2,699	592	98	30	146	180	100	395	107	8,776	2,932	
SON	Santa Rosa	55,484	3,650	16,342	17,890	7,826	45,708	78,390	41,833	6,224	1,246	1,591	1,522	2,043	875	5,033	1,191	113,313	29,409	44,700
SON	Sebastopol	3,337	305	905	1,130	510	2,850	4,855	2,430	420	56	188	40	159	0	352	68	7,004	1,792	2,623
SON	Sonoma	3,458	438	1,656	1,214	510	3,618	5,786	2,485	429	67	312	62	69	36	290	139	8,121	2,207	2,670
SON	South Santa Rosa	1,868	60	349	589	376	1,374	2,771	1,340	243	28	80	28	98	11	211	32	4,128	971	1,455
SON	Temecole	4,433	32	564	330	29	955	1,311	246	112	29	8	0	38	0	79	33	1,560	518	292
SON	Windsor	6,406	1,085	1,547	1,920	1,205	4,858	9,524	4,812	963	136	49	89	236	39	733	129	10,371	3,544	5,248
SON	Unincorporated	51,889	1,945	8,949	14,979	12,607	37,580	83,765	36,331	6,332	147	2,093	811	4,348	323	4,533	1,790	102,693	26,957	39,103
MAR	Belvedere	994	28	265	467	204	964	1,892	632	49	137	37	16	115	8	47	2	2,147	675	656
MAR	Bolinas	589	12	129	230	94	465	913	370	58	0	58	7	75	7	58	0	1,066	291	399
MAR	Corte Madera	4,680	98	1,310	1,478	691	3,577	6,621	3,348	440	507	68	78	124	26	346	94	8,272	2,314	3,546
MAR	Fairfax	4,292	123	1,120	1,288	561	3,092	5,589	2,750	494	464	111	65	210	25	342	152	6,931	1,719	2,965
MAR	Inverness	777	13	204	243	130	590	1,101	518	67	7	46	13	126	6	67	0	1,392	358	552
MAR	Kentfield	3,026	98	583	1,109	639	2,429	4,896	1,926	262	379	77	52	260	13	248	14	5,973	1,698	2,055
MAR	Lagunitas	1,142	9	176	405	206	796	1,701	879	113	48	22	13	60	13	91	22	1,836	486	931
MAR	Larkspur	6,472	382	2,615	2,077	648	5,722	8,855	4,337	531	790	211	63	415	35	443	88	11,070	2,789	4,581
MAR	Lucas Valley	3,311	37	403	936	795	2,171	4,897	2,202	405	383	59	26	202	26	280	125	5,982	1,703	2,375
MAR	Mill Valley	7,533	369	2,175	2,278	1,133	5,955	10,507	4,667	825	884	276	108	697	32	733	92	13,038	3,265	5,160
MAR	Novato	26,536	844	5,289	8,120	3,983	18,236	35,015	18,209	4,080	1,988	448	459	917	189	2,994	1,086	47,585	13,169	20,015
MAR	Ross	895	5	129	329	261	724	1,739	642	41	85	28	0	83	0	30	11	2,180	592	660
MAR	San Anselmo	6,876	409	1,579	2,196	946	5,130	9,200	4,327	715	732	256	173	583	134	592	123	11,743	3,147	4,659
MAR	San Rafael	26,634	1,512	7,454	8,016	3,313	20,295	34,414	17,120	3,274	2,993	948	468	1,280	165	2,480	794	48,404	12,003	18,584
MAR	Santa Venetia	1,837	53	375	509	379	1,316	2,632	1,234	245	126	39	37	85	11	206	39	3,362	920	1,348
MAR	Sausalito	5,110	187	1,899	1,492	515	4,093	6,510	2,719	686	914	76	102	475	40	563	123	7,152	1,528	3,037
MAR	Strawberry	2,666	102	1,033	699	323	2,157	3,528	1,676	320	269	61	48	213	39	268	52	4,377	1,082	1,824
MAR	Tamalpais	6,194	103	1,157	1,805	1,047	4,112	8,280	3,947	635	724	177	110	511	59	530	105	9,601	2,502	4,245
MAR	Tiburon	4,246	69	863	1,664	677	3,273	6,167	2,687	411	597	19	63	389	20	358	53	7,532	2,093	2,882
MAR	Woodacre	921	7	147	244	184	582	1,330	621	190	13	33	0	49	0	153	37	1,463	381	709
MAR	Unincorporated	12,848	419	2,499	3,726	2,683	9,327	19,211	7,903	1,694	859	689	130	1,313	70	1,293	401	28,980	6,233	8,662

Table C-2 Transportation-Related Data at Place-of-Residence, 1990 Census STF3A (Shares and Rates)

City	Place	HH	Workers/ HH	Vehicles/ HH	Auto/HH	Workers at Work	Dr. Alone	Comped	Transit	Walk	Other	All Home	% Home	Bicycle	% Shared	% Shared	Rate 3	Occupancy	Vehicle	Avg. Veh. Rate
City	Place	HH	Workers/ HH	Vehicles/ HH	Auto/HH	Workers at Work	Dr. Alone	Comped	Transit	Walk	Other	All Home	% Home	Bicycle	% Shared	% Shared	Rate 3	Occupancy	Vehicle	Avg. Veh. Rate
SC	San Jose	1634	2020	5.9%	400.92	76.9%	14.6%	9.8%	3.5%	1.6%	1.5%	1.9%	0.6%	11.9%	2.7%	2.7%	1.04	1.91	1.91	1.91
SC	San Martin	1656	2206	6.8%	777	69.0%	9.8%	10.5%	6.6%	6.3%	0.8%	8.4%	0.3%	8.4%	0.3%	7.6%	2.2%	1.07	1.96	1.96
SC	San Clara	1500	1846	6.1%	53.68	79.8%	9.8%	10.5%	2.4%	3.2%	2.3%	1.8%	1.3%	9.1%	1.3%	1.3%	1.06	1.80	1.80	1.80
SC	San Carlos	1437	2449	1.4%	14.20	85.7%	7.1%	0.9%	0.9%	1.2%	4.2%	5.5%	0.4%	5.5%	0.4%	1.6%	1.01	1.81	1.81	1.81
SC	Stanford	1875	1381	9.9%	81.49	24.2%	3.3%	3.3%	1.4%	18.3%	47.3%	5.5%	45.6%	2.6%	0.6%	0.6%	1.03	3.97	3.97	3.97
SC	Sunnyvale	1459	1851	4.3%	69.32	82.0%	9.6%	3.6%	2.5%	1.6%	2.0%	2.1%	0.9%	8.4%	12%	10.8	1.15	1.15	1.15	1.15
SC	Unincorporated	1618	2374	3.8%	27.97	74.6%	12.7%	12.7%	2.7%	2.8%	2.2%	5.0%	0.7%	10.2%	2.5%	1.09	1.09	1.09	1.09	1.09
CA	Alameda	1532	1578	9.0%	43.668	54.5%	10.6%	10.6%	12.1%	3.8%	2.9%	16.1%	1.5%	8.0%	2.6%	1.68	1.68	1.68	1.68	1.68
CA	Albany	1436	1436	9.4%	8.410	54.0%	13.8%	11.8%	16.5%	4.5%	6.3%	4.8%	4.7%	9.7%	4.1%	1.19	1.19	1.19	1.19	1.19
CA	Alhambra	1121	1508	12.5%	72.33	72.8%	11.8%	11.8%	10.4%	1.7%	1.6%	1.6%	0.3%	8.8%	3.1%	1.08	1.08	1.08	1.08	1.08
CA	Berkeley	1289	2297	19.0%	54.590	45.3%	9.8%	10.5%	15.2%	16.8%	6.8%	6.1%	4.9%	6.2%	3.7%	1.13	2.03	1.13	2.03	1.13
CA	Castro Valley	1321	2027	4.7%	24.474	94.7%	9.2%	9.2%	4.9%	1.8%	1.5%	2.9%	0.4%	8.3%	1.9%	1.06	1.06	1.06	1.06	1.06
CA	Cherryland	1124	1594	11.6%	4.757	71.2%	13.1%	13.1%	8.3%	2.2%	3.1%	2.1%	1.6%	10.0%	3.0%	1.09	1.09	1.09	1.09	1.09
CA	Emeryville	1616	2190	1.5%	10.795	79.7%	11.3%	11.3%	2.0%	2.2%	1.4%	3.4%	0.5%	10.0%	1.4%	1.07	1.07	1.07	1.07	1.07
CA	Fremont	1079	1319	8.8%	3.362	58.4%	16.6%	16.6%	12.9%	3.9%	3.1%	4.8%	1.2%	0.4%	10.1%	1.16	1.16	1.16	1.16	1.16
CA	Fremont	1599	2404	1.3%	4.888	76.0%	12.7%	12.7%	6.2%	0.8%	1.6%	2.6%	0.4%	10.1%	2.2%	1.08	1.08	1.08	1.08	1.08
CA	Fremont	1604	2189	3.2%	94.769	77.7%	12.8%	12.8%	4.6%	1.2%	1.7%	2.1%	0.5%	10.0%	2.6%	1.08	1.08	1.08	1.08	1.08
CA	Hayward	1391	1783	7.9%	54.012	71.8%	14.1%	14.1%	7.5%	2.3%	2.1%	1.8%	0.6%	11.4%	2.8%	1.07	1.07	1.07	1.07	1.07
CA	Livermore	1517	2192	3.8%	30.686	80.4%	10.7%	10.7%	1.8%	1.8%	2.9%	2.7%	1.8%	8.4%	2.4%	1.09	1.09	1.09	1.09	1.09
CA	Newark	1714	2223	2.8%	20.136	75.4%	16.8%	16.8%	3.4%	1.1%	1.6%	1.7%	0.6%	13.0%	3.9%	1.11	1.11	1.11	1.11	1.11
CA	Oakland	1284	2333	23.3%	160.160	57.0%	14.1%	14.1%	17.9%	4.9%	2.6%	3.6%	1.1%	9.2%	4.9%	1.1				

Table C-2 Transportation-Related Data at Place-of-Residence, 1990 Census STF3A (Shares and Rates)

City	Place	Workers/HH	Vehicles/HH	% Zero HH	Workers at Work	% Dr. Alone	% Carpool	% Transit	% Walk	% Other	% At Home	% Bicycle	% Shared Ride 2	% Shared Ride 3+	% Occupancy	Avg. Veh. Ridership
CC	Chinda	1,300	2,265	1%	8,108	69.4%	11.3%	10.9%	0.8%	0.7%	7.0%	0.1%	4.7%	6.5%	1,102	1,151
CC	Pacheco	1,165	1,813	4.4%	1,660	75.3%	11.0%	3.9%	3.9%	2.1%	3.4%	0.8%	8.1%	2.8%	1,076	1,247
CC	Pineole	1,473	2,154	2.5%	9,001	72.3%	17.9%	5.4%	1.3%	0.9%	2.1%	0.0%	12.6%	5.4%	1,126	1,248
CC	Pittsburg	1,408	1,987	8.4%	21,508	71.4%	19.5%	4.4%	1.5%	1.5%	1.7%	0.2%	13.9%	5.6%	1,134	1,253
CC	Pleasant Hill	1,190	1,542	14.5%	37,916	72.2%	10.7%	10.1%	2.2%	1.8%	3.0%	0.9%	7.9%	2.7%	1,077	1,300
CC	Rodeo	1,198	1,909	8.7%	3,463	78.8%	12.1%	4.3%	1.1%	1.9%	1.8%	0.2%	11.5%	4.7%	1,128	1,407
CC	San Pablo	1,162	1,415	18.4%	9,846	57.1%	25.2%	11.0%	2.8%	2.7%	1.2%	0.5%	17.2%	8.0%	1,080	1,188
CC	San Ramon	1,644	2,162	1.3%	20,763	81.9%	10.6%	18.8%	1.1%	1.2%	3.3%	0.5%	8.1%	2.6%	1,068	1,154
CC	Santa Rita	1,458	2,153	1.5%	2,543	76.9%	14.8%	4.5%	0.8%	1.0%	1.9%	0.0%	11.5%	3.3%	1,097	1,197
CC	Vine Hill-Pacheco	1,394	2,040	6.2%	1,598	77.5%	13.6%	0.3%	3.2%	3.6%	1.9%	0.5%	9.4%	4.2%	1,096	1,204
CC	West Creek	1,098	1,658	7.1%	30,645	70.1%	10.5%	12.1%	2.1%	1.4%	3.9%	0.6%	6.8%	3.7%	1,082	1,343
CC	West Pittsburg	1,274	1,831	8.4%	7,405	67.4%	20.8%	6.3%	1.0%	2.4%	2.1%	0.2%	16.9%	3.9%	1,147	1,300
CC	Unincorporated	1,424	2,082	4.7%	23,222	68.8%	11.1%	7.5%	2.2%	1.7%	8.7%	0.3%	7.6%	3.5%	1,086	1,358
SOL	Benicia	1,425	1,974	3.8%	12,835	75.2%	14.4%	3.6%	2.4%	1.4%	3.0%	0.2%	9.8%	4.6%	1,103	1,231
SOL	Dixon	1,431	2,025	4.0%	4,804	81.7%	12.4%	0.1%	2.1%	1.3%	2.3%	0.5%	9.3%	3.1%	1,079	1,147
SOL	Fairfield	1,488	1,900	4.8%	37,015	73.3%	18.3%	1.6%	2.3%	2.7%	1.8%	1.1%	12.5%	5.8%	1,131	1,235
SOL	Rio Vista	1,121	1,758	6.3%	1,474	78.3%	8.0%	0.0%	8.7%	2.8%	2.2%	1.8%	7.5%	0.5%	1,050	1,216
SOL	Suisun City	1,520	2,017	6.9%	9,892	72.0%	13.1%	1.9%	1.3%	1.5%	2.2%	0.3%	13.4%	7.7%	1,154	1,241
SOL	Vacaville	1,444	1,982	4.0%	32,130	77.0%	16.5%	1.2%	1.6%	1.5%	2.3%	0.5%	11.4%	5.0%	1,113	1,190
SOL	Vallejo	1,366	1,823	8.5%	49,906	65.7%	22.3%	3.6%	3.2%	2.6%	2.6%	0.8%	14.1%	8.2%	1,174	1,334
SOL	Unincorporated	1,494	2,446	2.3%	10,657	72.3%	13.9%	1.7%	2.6%	2.4%	7.1%	1.2%	9.4%	4.5%	1,103	1,279
NAP	American Canyon	1,334	2,083	3.4%	3,364	73.9%	21.4%	0.8%	1.1%	1.3%	1.5%	0.4%	17.0%	4.4%	1,142	1,198
NAP	Angwin	2,521	1,854	3.5%	2,033	43.7%	11.4%	0.0%	40.7%	0.2%	4.0%	0.0%	9.0%	2.5%	1,126	2,043
NAP	Calistoga	1,011	1,499	11.2%	1,932	59.8%	15.6%	0.0%	14.1%	5.0%	5.5%	4.3%	9.5%	6.1%	1,135	1,505
NAP	Deer Park	1,397	2,064	2.7%	913	78.2%	4.8%	0.0%	12.2%	2.4%	2.4%	0.4%	4.8%	0.0%	1,030	1,240
NAP	Napa City	1,240	1,831	7.8%	29,013	78.6%	12.8%	1.6%	2.4%	2.2%	2.4%	1.5%	9.6%	3.2%	1,085	1,187
NAP	St. Helena	1,111	1,577	10.5%	2,317	74.8%	7.5%	0.3%	8.4%	3.4%	5.7%	1.6%	5.1%	2.4%	1,054	1,280
NAP	Yountville	0,942	1,530	5.9%	832	77.0%	12.4%	0.0%	8.4%	0.8%	1.3%	0.0%	11.7%	0.7%	1,075	1,202
NAP	Unincorporated	1,364	2,242	2.9%	10,969	74.8%	11.6%	0.5%	3.8%	2.1%	7.3%	0.5%	8.1%	3.5%	1,083	1,254
SON	Bodega Bay	1,145	1,986	0.0%	479	77.2%	7.1%	0.0%	4.2%	2.1%	9.4%	0.0%	7.1%	0.0%	1,044	1,238
SON	Boyes Hot Spring	1,333	1,764	5.4%	3,042	73.6%	16.5%	3.2%	2.1%	1.6%	3.0%	1.0%	13.2%	3.3%	1,109	1,231
SON	Cloverdale	1,136	1,744	6.3%	2,141	73.6%	15.0%	1.2%	5.9%	1.2%	3.1%	0.5%	10.1%	4.9%	1,105	1,248
SON	Colati	1,386	1,819	5.1%	3,102	74.7%	15.0%	2.5%	2.9%	2.1%	2.9%	1.3%	12.2%	2.7%	1,098	1,225
SON	El Verano	1,381	1,846	3.5%	1,820	71.3%	18.6%	1.5%	4.1%	1.4%	3.1%	0.3%	15.2%	3.4%	1,126	1,252
SON	Flindge	1,429	1,989	3.7%	608	78.3%	9.7%	1.7%	1.3%	3.1%	6.9%	0.0%	9.7%	0.0%	1,057	1,202
SON	Feters Hot Springs	1,233	1,682	6.1%	1,034	76.3%	14.3%	1.9%	1.5%	4.9%	1.0%	1.1%	13.2%	1.2%	1,088	1,201
SON	Forestville	1,405	1,981	2.0%	1,249	76.5%	7.9%	0.9%	6.4%	2.3%	6.0%	0.0%	7.0%	1.0%	1,052	1,247
SON	Glen Ellen	1,402	2,166	2.8%	641	76.6%	11.1%	0.0%	3.4%	0.0%	8.9%	0.0%	4.5%	6.6%	1,091	1,245
SON	Graton	1,198	1,836	4.3%	661	69.3%	13.6%	0.0%	3.8%	1.2%	12.1%	0.0%	9.1%	4.5%	1,100	1,327
SON	Guerneville	1,080	1,415	12.5%	706	68.1%	16.3%	3.3%	6.5%	0.0%	5.6%	0.0%	11.8%	4.5%	1,120	1,327
SON	Healdsburg	1,298	1,686	7.1%	4,582	78.9%	11.9%	0.9%	3.5%	0.9%	3.9%	0.4%	9.5%	2.4%	1,076	1,184
SON	Larkfield - Wkipuk	1,425	1,916	3.7%	3,595	83.4%	9.1%	0.6%	1.9%	0.1%	4.8%	0.0%	7.3%	1.8%	1,056	1,147
SON	Monte Rio	0,925	1,875	10.1%	458	82.5%	13.8%	2.0%	0.0%	0.0%	1.7%	0.0%	13.8%	0.0%	1,076	1,112
SON	Northwood	1,548	1,820	4.9%	780	76.5%	9.2%	4.9%	1.2%	0.0%	8.2%	0.0%	9.2%	0.0%	1,057	1,232
SON	Occidental	1,419	1,946	6.0%	22,257	74.1%	15.3%	4.2%	2.6%	1.7%	2.2%	1.1%	11.4%	3.9%	1,105	1,236
SON	Petaluma	1,444	1,841	4.9%	18,998	75.6%	14.7%	2.8%	2.2%	1.7%	3.1%	1.2%	11.9%	2.8%	1,097	1,215
SON	Robert Park															

Table C-2 Transportation-Related Data at Place of Residence, 1990 Census STF3A (Shares and Rates)

Cnty	Place	Workers/ HH	Vehicles/ HH	Zero Auto/HH	Zero Workers at Work	% Dr Alone	% Carpool	% Transit	% Walk	% Other	% At Home	% Bicycle	% Shared Ride 2	% Shared Ride 3+	Vehicle Occupancy	Avg. Veh. Ridership
SON	Roseland	1,356	1,742	10.7%	3,805	70.3%	15.6%	2.6%	2.4%	38.8%	4.7%	2.6%	10.4%	5.2%	1,111	1,385
SON	Santa Rosa	1,214	1,715	8.0%	54,459	76.8%	11.4%	2.3%	2.9%	28.8%	3.8%	1.6%	9.2%	2.2%	1,075	1,218
SON	Sebastopol	1,171	1,704	10.7%	3,293	73.8%	12.8%	1.7%	5.7%	12.2%	4.8%	0.0%	10.7%	2.1%	1,087	1,255
SON	Seconoma	0,906	1,515	11.5%	3,424	72.5%	12.5%	2.0%	9.1%	18.8%	2.0%	1.1%	8.5%	4.1%	1,091	1,282
SON	South Santa Rosa	1,360	2,017	4.4%	1,817	73.3%	13.4%	1.5%	4.4%	1.5%	5.4%	0.6%	11.6%	1.8%	1,088	1,249
SON	Temelec	0,474	1,373	3.4%	433	56.2%	25.9%	6.7%	1.8%	0.0%	6.8%	0.0%	18.2%	7.6%	1,226	1,483
SON	Windsor	1,319	1,960	3.8%	6,285	76.6%	15.3%	2.2%	0.8%	1.4%	3.8%	0.6%	11.7%	3.7%	1,100	1,198
SON	Unincorporated	1,331	2,229	2.9%	50,762	71.6%	12.5%	1.7%	4.1%	1.6%	8.6%	0.6%	8.9%	3.5%	1,091	1,298
MAR	Belvedere	1,031	1,963	2.9%	986	64.1%	5.0%	13.9%	3.8%	1.6%	11.7%	0.8%	4.8%	0.2%	1,038	1,503
MAR	Bolinas	1,267	1,963	2.6%	568	65.1%	10.2%	0.0%	10.2%	1.2%	13.2%	1.2%	10.2%	0.0%	1,073	1,424
MAR	Corte Madera	1,308	1,851	2.7%	4,565	73.3%	9.6%	11.1%	1.5%	1.7%	2.7%	0.6%	7.6%	2.1%	1,068	1,297
MAR	Fairfax	1,388	1,808	4.0%	4,094	67.2%	12.1%	11.3%	2.7%	1.6%	5.1%	0.6%	8.4%	3.7%	1,094	1,381
MAR	Inverness	1,317	1,866	2.2%	777	66.7%	8.6%	0.9%	5.9%	1.7%	16.2%	0.8%	8.6%	0.0%	1,060	1,408
MAR	Kentfield	1,246	2,016	4.0%	2,956	65.2%	8.9%	12.8%	2.6%	1.8%	8.8%	0.4%	8.4%	0.5%	1,065	1,438
MAR	Lagunitas	1,435	2,137	1.1%	1,135	77.7%	10.0%	4.2%	1.9%	1.1%	5.3%	1.1%	8.0%	1.9%	1,066	1,219
MAR	Larkspur	1,131	1,548	6.7%	6,347	68.3%	8.4%	12.4%	3.3%	1.0%	6.5%	0.6%	7.0%	1.4%	1,063	1,366
MAR	Lucas Valley	1,525	2,256	1.7%	3,277	67.2%	12.4%	11.7%	1.8%	0.8%	6.2%	0.8%	8.5%	3.8%	1,098	1,380
MAR	Mill Valley	1,265	1,764	6.2%	7,457	62.6%	11.1%	11.9%	3.7%	1.4%	9.3%	0.4%	9.8%	1.2%	1,085	1,474
MAR	Novato	1,455	1,920	4.6%	26,101	69.8%	15.6%	7.6%	1.7%	1.8%	3.5%	0.7%	11.5%	4.2%	1,114	1,304
MAR	Ross	1,236	2,402	0.7%	879	73.0%	4.7%	9.7%	3.2%	0.0%	9.4%	0.0%	3.4%	1.3%	1,035	1,332
MAR	San Anselmo	1,340	1,793	8.0%	6,766	64.0%	10.6%	10.8%	3.8%	2.6%	8.3%	2.0%	8.7%	1.8%	1,082	1,452
MAR	San Rafael	1,312	1,696	7.5%	26,083	65.6%	12.6%	11.5%	3.6%	1.8%	4.9%	0.6%	9.5%	3.0%	1,097	1,404
MAR	Santa Venetia	1,396	2,000	4.0%	1,766	69.9%	13.9%	7.1%	2.2%	2.1%	4.8%	0.8%	11.7%	2.2%	1,097	1,310
MAR	Sausalito	1,248	1,591	4.6%	4,972	54.7%	13.8%	18.4%	1.5%	2.1%	9.6%	0.8%	11.3%	2.5%	1,121	1,617
MAR	Strawberry	1,236	1,636	4.7%	2,587	64.8%	12.4%	10.4%	2.4%	1.9%	8.2%	1.5%	10.4%	2.0%	1,094	1,438
MAR	Tamalpais	1,506	2,014	2.5%	6,104	64.4%	9.9%	14.3%	2.9%	1.8%	8.4%	1.0%	8.7%	1.7%	1,079	1,438
MAR	Tiburon	1,297	1,990	2.1%	4,166	64.3%	9.9%	14.3%	0.5%	1.5%	9.3%	0.5%	8.6%	1.3%	1,075	1,446
MAR	Woodacre	1,582	2,295	1.2%	906	68.2%	21.0%	1.4%	3.6%	0.0%	5.4%	0.0%	16.9%	4.1%	1,144	1,278
MAR	Unincorporated	1,378	2,060	4.5%	12,588	62.8%	13.5%	6.8%	5.5%	1.0%	10.4%	0.6%	10.3%	3.2%	1,108	1,453

Table C-3 More Transportation-Related Data at Place-of-Residence, 1990 Census STF3A

City	Place	Hills	Income	Hills	Mean Hilld.	Travellers to Work by Commute Time												Percent 60+ min.	Total Workers	Total Travels	Aggregate Travel Time	Avg. Travel Time	Intra-County Count	Percent Intra-County
						0-9 min.	10-19 min.	20-29 min.	30-39 min.	40-49 min.	50-59 min.	60+ min.												
LT 30K	30-40K	40-60K	GT 60K	Hills	Total	0-9 min.	10-19 min.	20-29 min.	30-39 min.	40-49 min.	50-59 min.	60+ min.												
SF	136,259	100,297	69,428	\$45,664	305,944	23,931	93,808	85,205	100,135	35,532	26,499	7.2%	362,399	87,830	9,865,801	26.9	307,410	80.4%						
SM	189	208	1,932	\$192,188	2,329	675	1,160	510	482	178	154	4.9%	3,469	3,159	62,546	19.8	1,966	56.7%						
SM	2,514	3,443	4,181	\$60,841	10,138	1,837	4,369	3,120	2,964	1,141	812	5.7%	14,654	14,243	338,636	23.8	9,851	67.2%						
SM	539	411	363	\$44,155	1,313	194	493	330	444	132	70	4.2%	1,687	1,663	39,892	24.0	810	48.0%						
SM	304	699	313	\$45,210	1,316	123	693	378	409	106	79	4.4%	1,830	1,788	40,258	22.5	781	42.7%						
SM	3,757	4,765	3,853	\$53,812	12,375	1,937	5,468	2,096	2,660	1,325	951	6.6%	14,818	14,437	335,368	23.2	9,677	65.3%						
SM	135	159	71	\$40,484	365	66	165	88	111	74	43	7.9%	563	547	14,462	26.4	274	48.7%						
SM	9,370	11,780	7,998	\$46,883	29,148	2,700	11,719	11,057	12,561	4,845	3,920	8.4%	47,420	46,802	1,296,457	27.7	16,862	35.6%						
SM	3,517	2,420	876	\$33,688	6,813	1,209	3,953	1,935	1,661	359	573	5.9%	9,869	9,690	206,779	21.3	4,488	45.5%						
SM	349	513	764	\$59,748	1,626	247	402	176	796	439	200	8.8%	2,411	2,280	70,538	30.9	1,482	61.5%						
SM	199	308	696	\$70,032	1,203	129	433	476	404	190	154	8.6%	1,870	1,786	50,436	28.2	1,025	54.8%						
SM	1,546	4,012	5,698	\$70,974	11,256	1,453	5,055	3,841	3,554	1,656	1,335	8.4%	17,429	16,994	447,113	26.3	11,103	63.7%						
SM	794	908	1,477	\$62,310	3,179	1,017	1,015	581	1,297	606	330	6.8%	5,074	4,836	123,381	25.5	3,667	72.3%						
SM	45	239	519	\$81,650	803	107	524	308	213	96	27	2.1%	1,313	1,275	27,512	21.6	911	69.4%						
SM	269	539	2,826	\$185,381	3,634	560	1,422	662	1,091	496	269	6.0%	4,844	4,500	114,609	25.5	2,806	57.9%						
SM	3,172	3,709	5,000	\$69,944	11,881	2,159	5,403	2,774	1,983	716	551	4.1%	14,191	13,586	275,314	20.3	6,242	44.0%						
SM	2,258	2,899	2,240	\$55,377	7,967	1,432	3,413	2,040	1,836	546	414	4.3%	9,968	9,681	207,691	21.5	6,560	65.8%						
SM	155	243	525	\$74,176	923	48	271	219	342	260	174	13.2%	1,396	1,314	44,190	33.6	933	66.8%						
SM	147	377	523	\$67,881	1,047	205	417	217	500	237	210	11.8%	1,855	1,796	53,036	29.7	1,244	67.1%						
SM	1,711	1,285	790	\$40,444	3,786	644	2,581	1,510	1,313	251	201	3.1%	6,742	6,500	136,194	21.0	4,665	69.2%						
SM	3,259	5,554	4,505	\$52,152	13,318	1,484	4,203	5,999	5,702	2,267	1,351	6.6%	20,971	20,606	569,668	27.7	10,465	49.9%						
SM	193	239	1,193	\$142,719	1,625	203	548	584	373	97	129	6.7%	2,078	1,934	46,169	23.9	923	44.4%						
SM	8,527	8,994	8,051	\$51,446	25,572	4,305	12,788	7,826	6,375	1,946	1,564	4.5%	35,807	34,804	760,789	21.9	23,807	66.5%						
SM	4,502	6,196	3,662	\$48,227	14,660	2,587	7,151	4,369	3,816	1,592	831	4.1%	20,757	20,346	452,115	22.2	12,942	62.4%						
SM	2,563	3,702	4,894	\$46,094	11,159	1,783	4,238	3,248	2,922	1,370	826	5.7%	14,859	14,367	347,205	24.1	9,817	66.1%						
SM	10,739	13,922	10,835	\$54,113	35,496	5,811	17,630	8,433	8,726	2,863	2,654	5.8%	47,192	46,117	1,090,191	22.3	33,729	71.5%						
SM	5,999	7,547	5,042	\$45,706	18,588	3,177	8,991	5,883	5,509	2,114	1,571	5.8%	27,575	27,245	640,638	23.5	15,548	56.4%						
SM	340	510	818	\$60,016	1,668	255	819	381	341	142	114	5.6%	2,117	2,052	45,700	22.3	965	45.6%						
SM	156	325	1,219	\$191,309	1,800	189	693	644	487	176	141	6.1%	2,664	2,330	56,446	24.2	1,515	56.9%						
SM	1,461	1,931	3,968	\$77,568	7,360	1,407	2,734	1,764	2,552	1,087	795	7.7%	11,136	10,339	269,498	26.1	6,445	57.9%						
SC	957	739	352	\$35,520	2,048	270	846	736	369	116	84	3.3%	2,564	2,521	54,463	21.6	2,311	90.1%						
SC	275	373	395	\$54,443	1,043	144	369	391	320	148	68	4.7%	1,491	1,440	36,098	25.1	1,349	90.5%						
SC	4,986	5,646	4,680	\$48,853	15,312	2,020	5,938	5,652	5,350	1,165	755	3.6%	21,397	20,880	488,491	23.4	19,769	92.4%						
SC	2,178	4,657	8,526	\$76,099	15,361	2,135	6,743	7,845	4,470	665	615	2.7%	23,140	22,473	497,235	21.7	20,293	87.7%						
SC	1,286	1,598	1,719	\$55,966	4,603	515	1,779	1,636	1,746	594	355	5.4%	6,824	6,625	170,771	25.8	6,274	91.9%						
SC	3,420	3,495	2,549	\$46,720	9,464	3,723	4,257	3,344	1,838	1,553	1,507	10.6%	14,498	14,232	337,862	23.7	13,215	91.2%						
SC	191	225	380	\$46,020	796	23	234	247	440	173	53	4.5%	1,224	1,170	34,300	29.3	1,161	94.9%						
SC	1,331	2,221	6,317	\$100,257	9,869	1,653	4,848	3,802	1,609	375	497	3.9%	13,522	12,784	258,850	20.3	10,865	80.4%						
SC	123	386	2,103	\$178,928	2,612	388	1,325	872	660	93	164	4.7%	3,747	3,502	75,620	21.6	2,992	79.9%						
SC	2,591	3,220	5,512	\$80,568	11,323	1,919	3,622	3,979	4,236	917	534	3.5%	15,786	15,207	362,109	23.8	14,591	92.4%						
SC	87	264	784	\$110,955	1,135	129	477	496	188	42	91	6.4%	1,522	1,423	30,924	21.7	1,200	78.8%						
SC	2,573	5,342	6,322	\$60,467	14,237	2,838	7,194	6,686	6,228	1,402	871	3.5%	25,757	25,219	576,130	22.9	21,669	84.1%						
SC	98	160	909	\$135,655	1,167	148	446	426	454	112	81	4.9%	1,809	1,667	42,086	25.3	1,657	91.6%						

Table C-3 More Transportation-Related Data at Place-of-Residence, 1990 Census STF3A

City	Place	Hills			Income			Hills			Mean			Travellers to Work by Commute Time									Percent			Aggregate			Intra-County Count	Percent Intra-County
		LT 30K	Income 30K-60K	Income GT 60K	Income	Hills	Income	Income	Total	0 - 9 min.	10 - 19 min.	20 - 29 min.	30 - 39 min.	40 - 49 min.	50 - 59 min.	60 + min.	Percent	Total Travels	Workers	Total	Travel Time	Avg. Travel Time								
SC	Morgan Hill	1,936	2,507	3,238	\$59,111	7,838	1,823	2,635	1,667	2,082	1,938	1,586	13.5%	60+	11.3%	350,433	299	11,130	94.4%											
SC	Mountain View	9,070	11,929	8,998	\$49,904	29,997	5,767	18,631	9,930	4,854	981	1,510	2.8%	60+	12.108	112,736	42,108	11,236	758,659	184	33,685	80.0%								
SC	Palo Alto	5,965	7,384	11,361	\$72,751	24,700	4,791	12,829	6,706	3,715	823	1,107	3.7%	60+	31,720	29,971	569,306	190	24,372	76.8%										
SC	Rancho Rinconada	3,417	593	485	\$52,293	1,425	196	641	792	498	68	22	3.7%	60+	400,932	393,184	10,030,667	255	365,884	91.3%										
SC	San Jose	71,987	93,809	85,254	\$52,091	251,050	30,958	105,941	100,450	100,678	32,379	22,778	5.8%	60+	18,120	22,407	480,010	214	1,998	87.6%										
SC	San Martin	2,111	224	99	\$37,190	534	139	194	51	124	63	141	19.8%	60+	777	712	20,879	293	737	94.9%										
SC	Santa Clara	10,739	14,171	11,638	\$49,905	36,548	6,642	23,083	12,501	7,488	1,650	1,374	2.6%	60+	53,687	52,738	1,009,054	191	48,590	90.5%										
SC	Saratoga	1,071	1,928	7,149	\$12,357	10,148	1,258	3,222	3,988	4,067	691	415	3.0%	60+	18,440	13,641	329,336	241	13,000	91.3%										
SC	Stanford	2,449	1,126	1,082	\$46,371	4,657	4,023	2,779	505	205	98	83	1.1%	60+	81,249	7,697	78,125	102	7,591	93.2%										
SC	Sunnyvale	13,122	18,673	16,797	\$53,581	48,592	8,570	29,942	16,676	8,878	1,830	1,897	2.8%	60+	69,322	67,753	1,286,493	190	40,012	86.6%										
CA	Unincorporated	4,401	5,992	7,168	\$48,756	17,561	3,381	7,513	5,223	5,581	2,433	2,253	8.5%	60+	27,977	26,584	677,301	259	25,720	91.9%										
ALA	Alameda	10,655	11,037	7,203	\$47,887	29,235	5,170	12,703	6,705	6,884	3,201	2,501	6.8%	60+	43,668	37,946	233	33,448	76.6%											
ALA	Albany	2,958	2,720	1,525	\$41,125	7,673	894	2,276	1,578	2,079	540	636	7.9%	60+	8,410	8,003	204,228	255	5,613	66.7%										
ALA	Ashland	3,650	2,419	610	\$32,647	6,679	709	2,231	1,699	1,484	588	496	7.0%	60+	7,233	7,117	175,488	247	5,910	81.7%										
ALA	Berkeley	21,911	11,960	9,678	\$42,902	43,549	6,849	17,604	8,834	9,632	4,832	3,504	6.8%	60+	54,590	51,255	1,235,394	241	39,288	72.0%										
ALA	Castro Valley	5,877	6,797	3,668	\$51,382	19,042	2,497	6,506	6,127	4,851	2,070	1,661	7.0%	60+	24,474	23,756	600,440	253	19,580	80.0%										
ALA	Cherryland	2,306	1,659	369	\$32,770	4,334	443	1,589	1,121	863	391	243	5.2%	60+	4,757	4,656	109,819	236	3,981	83.7%										
ALA	Dublin	1,289	2,251	2,919	\$56,694	6,359	1,328	3,113	1,350	2,237	1,176	1,027	9.8%	60+	10,795	10,431	273,090	262	7,043	65.2%										
ALA	Emeryville	1,356	1,552	796	\$41,519	3,304	3,099	1,015	703	678	195	209	6.5%	60+	3,362	3,199	74,522	233	1,975	58.7%										
ALA	Fairview	595	1,218	1,278	\$40,704	3,091	220	1,225	1,196	1,221	538	359	7.5%	60+	4,888	4,759	31,553	276	3,813	78.0%										
ALA	Fremont	12,895	23,769	23,474	\$67,408	60,138	9,400	24,545	15,068	24,964	11,658	716	7.7%	60+	94,769	92,800	2,549,415	275	53,288	56.2%										
ALA	Hayward	15,870	16,419	7,957	\$41,019	40,246	4,437	15,029	10,058	13,661	5,953	3,905	7.4%	60+	54,012	53,043	1,422,606	268	39,879	73.8%										
ALA	Livermore	4,875	5,852	7,232	\$52,899	20,659	4,339	10,177	4,502	4,683	3,276	2,868	9.7%	60+	30,686	29,862	756,265	253	23,991	78.2%										
ALA	Newark	2,535	5,253	4,216	\$52,703	12,004	2,190	5,273	3,324	5,381	2,058	1,562	7.9%	60+	20,136	19,788	529,253	268	11,800	58.6%										
ALA	Oakland	78,283	41,856	24,627	\$37,100	144,766	13,142	46,803	31,942	37,054	13,747	11,630	7.5%	60+	160,160	154,318	3,982,502	258	116,361	72.7%										
ALA	Piedmont	461	757	251	\$122,484	3,729	557	1,599	913	1,176	299	163	3.5%	60+	5,188	4,707	104,774	223	3,473	66.9%										
ALA	Pleasanton	3,180	6,252	9,243	\$66,967	18,675	4,755	7,745	4,181	5,265	3,632	3,207	11.1%	60+	29,580	28,785	773,343	269	19,826	67.0%										
ALA	San Leandro	11,875	11,506	5,718	\$41,089	29,099	4,456	10,570	6,717	6,576	2,725	2,079	6.3%	60+	33,566	33,123	781,012	236	26,670	79.5%										
ALA	San Lorenzo	2,428	3,338	1,575	\$43,242	7,341	847	2,967	2,082	1,904	688	678	7.4%	60+	9,344	9,166	226,044	247	7,605	81.4%										
ALA	Union City	3,925	6,751	5,149	\$50,646	15,825	1,832	7,407	4,986	6,715	3,426	2,314	8.7%	60+	27,077	26,680	751,511	282	17,494	64.6%										
ALA	Unincorporated	1,674	1,576	1,451	\$50,099	4,701	730	2,021	1,001	1,361	590	501	8.1%	60+	6,496	6,204	158,408	255	5,124	78.9%										
CC	Alamo	378	691	3,185	\$125,841	4,254	517	1,759	1,069	1,344	548	669	11.4%	60+	6,124	5,866	164,168	280	3,475	56.7%										
CC	Antioch	7,394	8,722	5,274	\$43,968	21,390	4,545	7,816	3,130	5,238	3,243	4,449	15.8%	60+	29,079	28,501	837,583	294	23,085	79.4%										
CC	Bayview-Montalvin	420	529	228	\$40,432	1,177	126	402	383	423	199	159	9.4%	60+	1,702	1,692	48,348	286	896	52.6%										
CC	Bethel Island	442	411	1,727	\$46,192	2,048	116	182	42	544	260	262	25.2%	60+	1,139	1,039	39,462	380	855	57.1%										
CC	Blackhawk	76	143	1,829	\$162,569	2,028	201	893	429	544	496	550	17.1%	60+	3,226	3,099	100,264	324	1,690	52.2%										
CC	Brentwood	950	897	630	\$43,209	2,477	463	712	397	620	413	651	20.9%	60+	3,296	3,256	106,570	327	2,189	66.4%										
CC	Clayton	215	540	1,582	\$77,068	2,337	275	720	920	714	433	763	19.9%	60+	3,958	3,825	128,089	335	2,793	70.6%										
CC	Concord	13,953	16,732	11,410	\$46,117	42,095	5,900	18,915	8,719	9,703	6,447	8,344	14.4%	60+	59,748	58,028	1,669,179	288	42,331	70.8%										
CC	Crocket	546	571	305	\$42,518	1,122	227	289	358	365	140	201	12.7%	60+	1,648	1,580	46,630	295	1,160	70.4%										
CC	Danville	1,152	2,845	7,170	\$87,399	1,467	2,075	4,241	2,594	3,558	1,628	2,264	13.8%	60+	17,052	16,360	470,321	288	9,100	53.4%										
CC	Discovery Bay	280	610	1,233	\$74,177	2,137	363	204	161	898	524	837	28.8%	60+	3,125	3,018	125,699	417	1,425	45.8%										
CC	East Richmond Heights	446	558	333	\$44,910	1,337	124	475	360	492	131	137	8.0%	60+	1,719	1,719	125,699	264	1,425	45.8%										

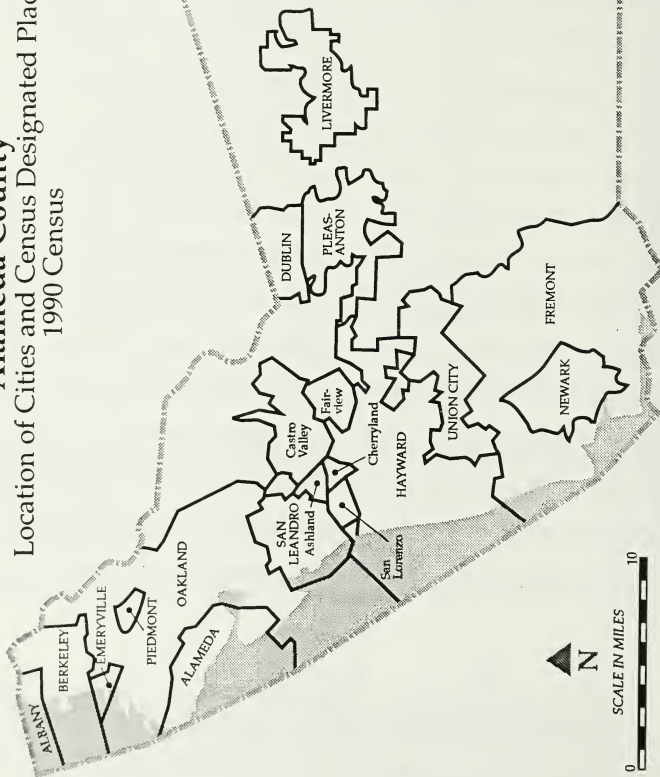
Table C-3 More Transportation-Related Data at Place-of-Residence, 1990 Census STF3A

City	Place	Hills Income	Hills Income	Mean Hills Income	Total Hills Income	Travellers to Work by Commute Time	Percent 60+ min.	Total Workers	Total Travels	Aggregate Travel Time	Avg. Travel Time	Intra-County Commutes	Percent Intra-County
		30-60K	60-90K	90-120K	120-150K	0-9 min.	10-19 min.	20-29 min.	30-44 min.	45-59 min.	60+ min.		
CC	El Cerrito	3,325	3,720	2,745	\$49,637	9,900	919	3,089	2,164	2,783	1,257	743	6.7%
CC	El Sobrante	1,413	1,659	791	\$44,253	3,863	378	1,057	1,021	1,205	455	404	8.9%
CC	Hercules	629	2,403	2,299	\$59,165	5,331	379	1,221	1,413	2,284	1,752	1,951	21.7%
CC	Kensington	407	658	1,140	\$69,911	2,205	219	752	445	559	244	233	9.5%
CC	Lafayette	1,635	2,484	4,914	\$88,764	9,033	1,355	2,707	2,094	2,876	1,239	1,206	10.5%
CC	Martinez	3,484	5,093	4,006	\$50,720	12,583	2,428	4,825	2,752	3,303	1,584	1,968	11.7%
CC	Moraga	828	1,502	3,266	\$87,117	5,596	903	1,247	1,620	2,316	933	728	9.4%
CC	Oakley	1,469	2,764	1,670	\$47,963	5,903	665	1,717	863	1,640	1,350	1,913	23.6%
CC	Orinda	867	1,389	4,052	\$106,561	6,308	580	1,624	1,656	2,129	1,017	538	71%
CC	Pacheco	646	552	250	\$37,341	1,408	225	595	231	220	126	200	12.5%
CC	Pinole	1,795	2,650	1,850	\$49,833	6,295	770	1,819	1,517	2,269	1,206	1,229	14.0%
CC	Pittsburg	5,840	6,818	3,095	\$41,308	15,753	2,042	4,787	4,019	4,264	2,422	3,602	17.3%
CC	Pleasant Hill	3,737	4,809	4,515	\$52,791	13,061	2,076	5,347	2,477	3,252	1,895	2,312	13.0%
CC	Richmond	15,147	11,640	5,991	\$38,574	32,798	3,652	8,779	6,721	9,688	4,050	4,012	10.9%
CC	Rodeo	987	1,031	658	\$42,642	2,676	382	621	640	843	559	355	10.4%
CC	San Pablo	5,119	2,733	938	\$29,632	8,810	393	2,347	1,633	2,635	1,066	1,111	11.4%
CC	San Ramon	1,691	3,950	7,165	\$69,518	12,806	3,013	5,488	2,900	4,060	2,211	2,397	11.9%
CC	Tara Hills	503	810	443	\$44,832	1,756	299	601	432	648	240	334	13.4%
CC	Vine Hill-Pacheco	382	545	203	\$41,598	1,130	293	475	244	201	151	116	7.8%
CC	Walnut Creek	8,290	10,157	9,893	\$55,745	28,340	3,054	8,950	4,537	5,659	3,305	3,960	13.4%
CC	West Pittsburg	2,695	2,422	847	\$36,820	5,964	397	2,136	1,292	1,446	780	1,196	16.5%
CC	Unincorporated	4,775	5,418	6,433	\$60,317	16,626	2,565	5,486	3,226	4,762	2,430	2,737	12.9%
SOL	Bentonia	2,357	3,361	3,548	\$54,496	9,266	1,735	2,876	2,049	2,683	1,212	1,892	15.2%
SOL	Dixon	1,242	1,488	656	\$42,671	3,386	836	1,430	1,019	797	250	361	7.7%
SOL	Fairfield	9,612	11,065	4,720	\$40,549	25,397	6,760	12,744	4,653	4,902	2,960	4,323	11.9%
SOL	Los Vista	609	490	213	\$38,687	1,312	825	181	111	116	138	71	4.9%
SOL	Suisun City	2,024	3,111	1,510	\$42,959	6,645	746	2,808	1,423	1,499	1,119	2,076	21.5%
SOL	Vacaville	7,308	10,244	5,257	\$44,074	22,809	4,545	10,264	4,838	4,272	2,786	4,702	15.0%
SOL	Vallejo	14,938	14,787	7,777	\$40,750	37,422	5,940	13,709	6,517	8,871	5,450	8,141	16.7%
SOL	Unincorporated	2,279	2,598	2,523	\$55,222	7,400	1,276	2,914	2,003	1,631	831	1,248	12.6%
NAP	American Canyon	855	1,201	591	\$43,737	2,647	276	944	571	664	487	567	16.2%
NAP	Angwin	1,319	333	155	\$43,192	807	1,164	480	144	87	52	25	1.3%
NAP	Calistoga	1,104	568	281	\$35,884	1,953	613	475	261	240	118	119	6.5%
NAP	Deer Park	231	265	194	\$64,814	690	355	264	144	94	26	8	0.9%
NAP	Napa City	9,880	9,288	4,662	\$41,795	23,830	6,163	10,968	3,380	4,238	1,545	2,012	7.1%
NAP	St. Helena	892	721	543	\$44,644	2,156	988	621	196	234	56	91	4.2%
NAP	Yountville	472	289	130	\$36,228	851	259	623	141	70	49	48	8.8%
NAP	Unincorporated	2,449	2,864	2,898	\$64,216	8,211	2,096	3,344	1,588	1,591	545	1,006	9.5%
SON	Boodega Island	81	152	215	\$92,364	448	101	35	46	190	25	37	8.8%
SON	Boyes Hot Spring	1,180	893	276	\$35,130	2,349	518	1,014	318	498	276	326	11.1%
SON	Cloverdale	886	746	277	\$36,967	1,909	720	302	265	448	186	154	7.4%
SON	Coati	988	991	452	\$40,897	2,271	339	944	551	471	248	460	15.3%
SON	El Verano	589	508	204	\$38,847	1,301	409	613	185	286	96	175	9.9%

Table C-3 More Transportation-Related Data at Place-of-Residence, 1990 Census STF3A

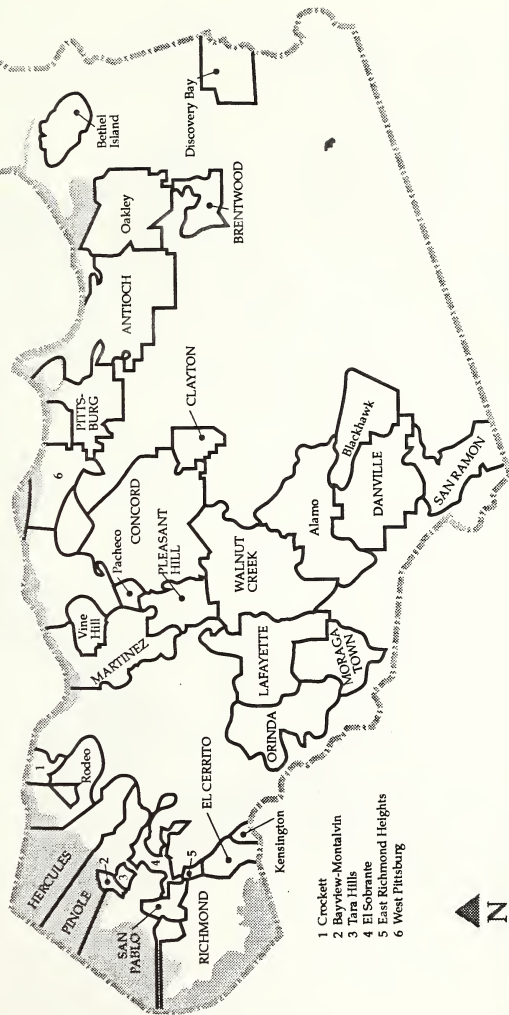
City	Place	HHs Income LT 30K	HHs Income 30-60K	HHs Income GT 60K	Mean Hhld. Income	Total HHs	Travellers to Work by Commute Time										Percent 60 + min.	Total Workers	Total Travels	Aggregate Travel Time min.	Avg. Travel Time min.	Intra-County Travels	Percent Intra-County Travels
							0 - 9 min.	10 - 19 min.	20 - 29 min.	30 - 39 min.	40 - 49 min.	50 - 59 min.	60 + min.										
SON	Edridge	210	182	122	\$46,231	474	176	163	58	188	39	42	7.4%	648	566	12,757	22.5	479	78.8%				
SON	Fellers Hot Springs	424	331	111	\$34,881	866	154	389	90	192	108	91	8.9%	1,034	1,024	24,337	23.8	790	76.4%				
SON	Forestville	373	446	151	\$19,872	970	147	267	103	236	11	100	8.5%	1,249	1,174	29,063	24.8	1,150	92.1%				
SON	Glen Ellen	157	113	141	\$46,980	411	137	138	103	125	41	40	6.8%	641	584	13,306	22.8	555	86.6%				
SON	Grafton	285	210	99	\$35,563	594	107	111	181	105	20	57	9.8%	661	581	13,967	24.0	622	94.1%				
SON	Guernville	543	261	77	\$28,436	881	117	153	93	189	71	42	6.3%	706	665	17,350	26.1	609	86.3%				
SON	Headburg	1,494	1,542	505	\$39,780	3,541	1,429	1,021	883	716	132	222	5.0%	4,382	4,403	84,496	19.2	4,346	94.8%				
SON	Larkfield - Wikip	642	988	960	\$59,536	2,640	502	1,659	540	257	132	332	9.7%	3,595	3,422	73,888	21.6	3,202	89.1%				
SON	Monte Rio	333	84	64	\$28,775	481	48	64	54	152	63	69	15.3%	438	450	15,980	35.5	391	85.4%				
SON	Occidental	218	197	111	\$46,075	526	50	108	119	385	14	40	5.6%	780	716	19,671	27.5	743	95.3%				
SON	Petaluma	5,231	6,772	4,059	\$45,751	16,062	4,286	4,482	3,214	4,377	2,305	3,107	14.3%	22,257	21,771	620,478	28.5	12,596	56.6%				
SON	Robnet Park	5,231	5,627	2,556	\$39,772	13,404	2,743	5,823	3,668	2,997	1,470	2,315	12.6%	18,998	18,116	488,031	26.5	14,092	74.2%				
SON	Roseland	1,607	931	317	\$32,072	2,855	536	1,685	647	414	107	236	6.5%	3,805	3,625	73,263	20.2	3,492	91.8%				
SON	Santa Rosa	19,254	17,521	9,126	\$42,298	45,901	9,734	23,819	8,403	5,010	1,702	3,748	7.2%	54,459	52,416	1,053,516	20.1	49,295	90.5%				
SON	Sebastopol	1,227	1,153	462	\$38,346	2,842	632	882	741	396	143	340	10.8%	3,293	3,134	73,612	23.5	2,854	86.7%				
SON	Sonoma	1,807	1,322	737	\$38,612	3,866	1,168	770	346	500	289	322	9.6%	3,424	3,355	75,538	22.5	2,496	72.9%				
SON	South Santa Rosa	661	516	183	\$37,834	1,360	269	682	334	214	92	128	7.4%	1,817	1,719	38,541	22.4	1,644	90.5%				
SON	Temelec	438	323	179	\$38,529	940	0	126	63	46	68	92	23.3%	433	395	14,470	36.6	207	47.8%				
SON	Windsor	1,901	2,027	984	\$41,528	4,912	665	2,115	1,715	770	208	576	9.5%	6,285	6,049	146,164	24.2	5,644	89.8%				
SON	Unincorporated	13,954	13,640	10,024	\$50,659	37,618	7,377	13,257	9,265	8,226	3,191	5,098	11.0%	50,762	46,414	1,206,823	26.0	42,341	83.4%				
MAR	Belvedere	116	153	699	\$159,633	968	89	172	110	305	129	66	7.6%	986	871	26,061	29.9	445	45.1%				
MAR	Bollinas	161	148	137	\$47,718	446	105	45	44	51	75	173	35.1%	568	493	20,109	40.8	409	72.0%				
MAR	Corte Madera	876	1,207	1,500	\$61,444	3,583	663	1,240	623	1,084	491	340	7.7%	4,565	4,441	115,508	26.0	2,329	51.0%				
MAR	Fairfax	990	1,229	869	\$49,934	3,088	406	795	797	791	493	602	15.5%	4,094	3,884	121,672	31.3	2,628	64.2%				
MAR	Inverness	234	235	181	\$45,319	650	99	210	33	105	79	125	19.2%	777	651	20,005	30.7	604	77.7%				
MAR	Kentfield	468	512	1,837	\$110,593	2,417	406	626	398	679	330	257	9.5%	2,956	2,696	73,790	27.4	1,574	53.2%				
MAR	Lagunitas	252	264	259	\$49,458	775	80	89	299	314	131	162	15.1%	1,135	1,075	35,574	33.1	854	75.2%				
MAR	Larkspur	1,676	2,071	2,014	\$64,165	5,761	872	1,717	659	1,286	739	659	11.1%	6,347	5,932	163,220	27.5	3,807	53.7%				
MAR	Lucas Valley	298	661	1,192	\$75,226	2,151	395	832	498	582	328	440	14.3%	3,277	3,075	89,808	29.2	1,938	59.1%				
MAR	Mill Valley	1,519	1,715	2,728	\$78,795	5,962	800	1,551	1,037	1,837	1,130	405	6.0%	7,457	6,760	187,325	27.7	3,690	49.5%				
MAR	Novato	5,083	7,083	6,193	\$55,588	18,359	3,091	5,399	4,120	5,882	3,010	3,682	14.6%	26,101	25,184	762,143	30.3	16,525	63.3%				
MAR	Ross	100	174	452	\$159,512	726	92	167	110	164	178	85	10.7%	879	796	24,809	31.2	441	50.2%				
MAR	San Anselmo	1,720	1,597	1,868	\$57,519	5,185	619	1,610	1,054	1,177	775	968	15.6%	6,766	6,203	186,552	30.1	4,026	59.5%				
MAR	San Rafael	7,033	6,607	6,719	\$56,970	20,389	3,502	8,127	3,325	4,513	2,823	2,513	10.1%	26,083	24,803	645,999	26.1	16,720	64.1%				
MAR	Santa Venetia	398	476	448	\$50,516	1,322	177	546	328	323	228	79	4.7%	1,766	1,681	41,678	24.8	1,098	62.2%				
MAR	Sausalito	942	1,081	2,067	\$85,393	4,090	518	762	1,013	1,284	548	372	8.3%	4,972	4,497	127,310	28.3	1,902	38.3%				
MAR	Strawberry	737	692	741	\$72,190	2,170	316	621	322	746	284	85	3.6%	2,587	2,374	59,601	25.1	1,294	50.0%				
MAR	Tanalaipais	706	1,225	2,183	\$79,639	4,114	686	1,297	1,036	1,541	592	441	7.9%	6,104	5,593	151,610	27.1	2,886	47.3%				
MAR	Tiburon	610	671	1,972	\$120,270	3,253	401	728	523	1,374	533	198	5.2%	4,166	3,777	107,859	28.6	1,988	47.7%				
MAR	Woodcreek	152	224	226	\$59,372	602	50	92	214	281	87	133	15.5%	946	857	28,869	33.7	647	71.4%				
MAR	Unincorporated	2,695	2,805	3,772	\$70,428	9,222	1,368	2,584	1,853	2,676	1,430	1,364	12.1%	12,588	11,275	327,528	29.1	7,830	62.2%				

Figure C-1
Alameda County
 Location of Cities and Census Designated Places
 1990 Census



ALL UPPER CASE = Incorporated Cities
 Upper and Lower Case = Unincorporated Census Designated Places (CDP)

Figure C-2
Contra Costa County
 Location of Cities and Census Designated Places
 1990 Census

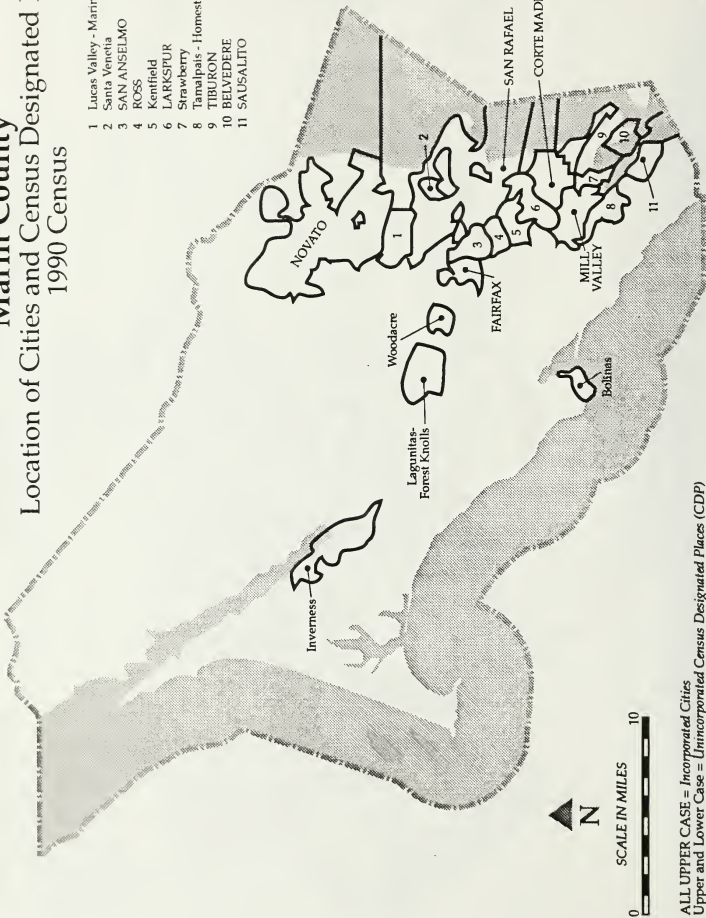


ALL UPPER CASE = Incorporated Cities
 Upper and Lower Case = Unincorporated Census Designated Places (CDP)

Figure C-3 Marin County

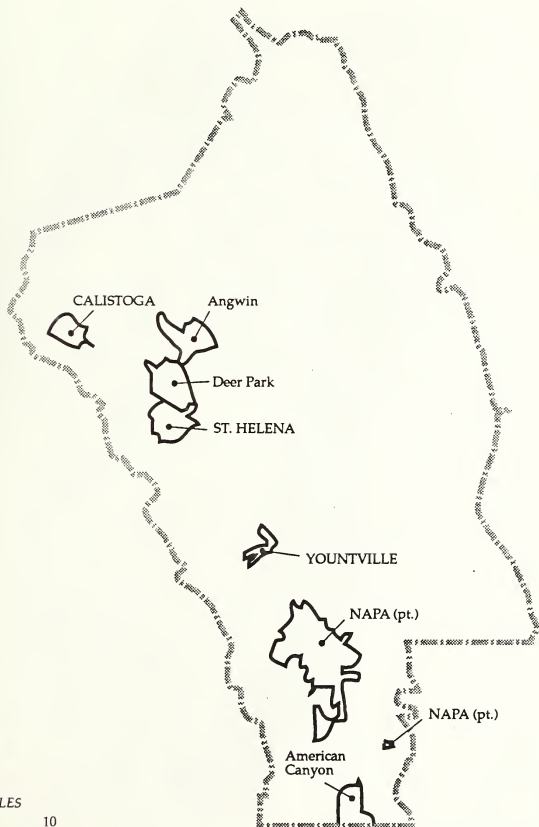
Location of Cities and Census Designated Places 1990 Census

- 1 Lucas Valley - Marinwood
- 2 Santa Venetia
- 3 SAN ANSELMO
- 4 ROSS
- 5 Kentfield
- 6 LARKSPUR
- 7 Strawberry
- 8 Tamalpais - Homestead Valley
- 9 TIBURON
- 10 BELVEDERE
- 11 SAUSALITO



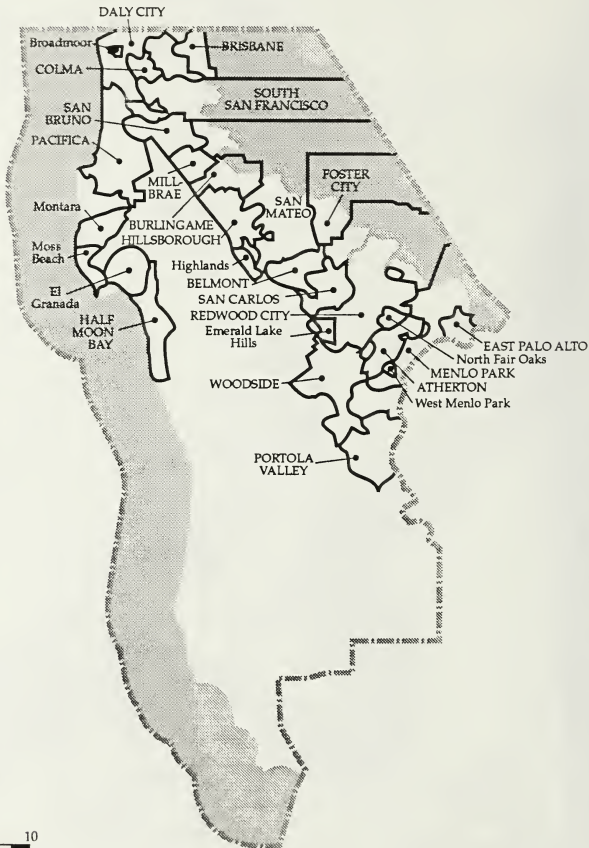
ALL UPPER CASE = Incorporated Cities
Upper and Lower Case = Unincorporated Census Designated Places (CDP)

Figure C-4
Napa County
 Location of Cities and Census Designated Places
 1990 Census



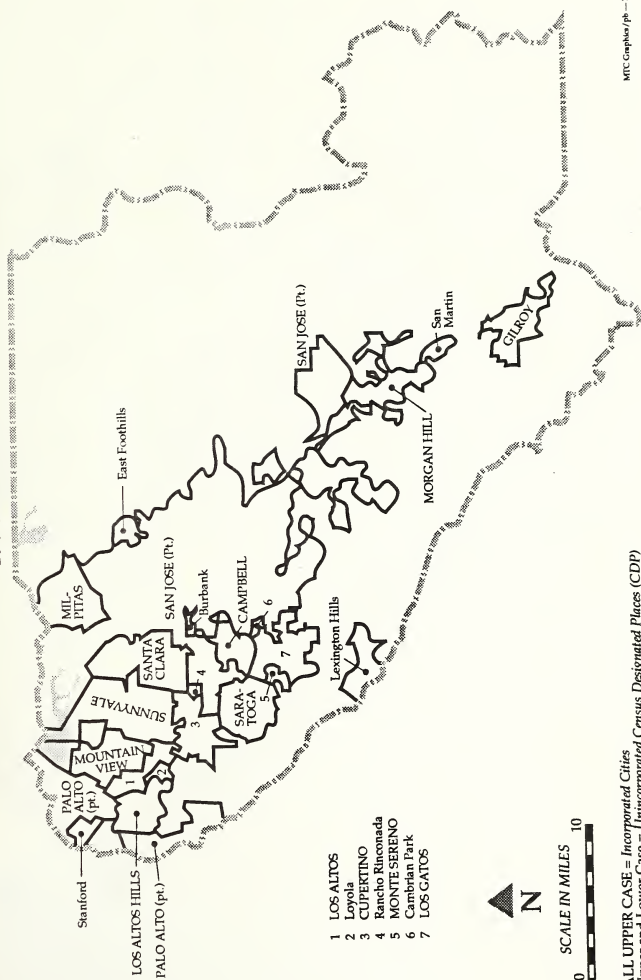
ALL UPPER CASE = Incorporated Cities
 Upper and Lower Case = Unincorporated Census Designated Places (CDP)

Figure C-5
San Mateo County
 Location of Cities and Census Designated Places
 1990 Census



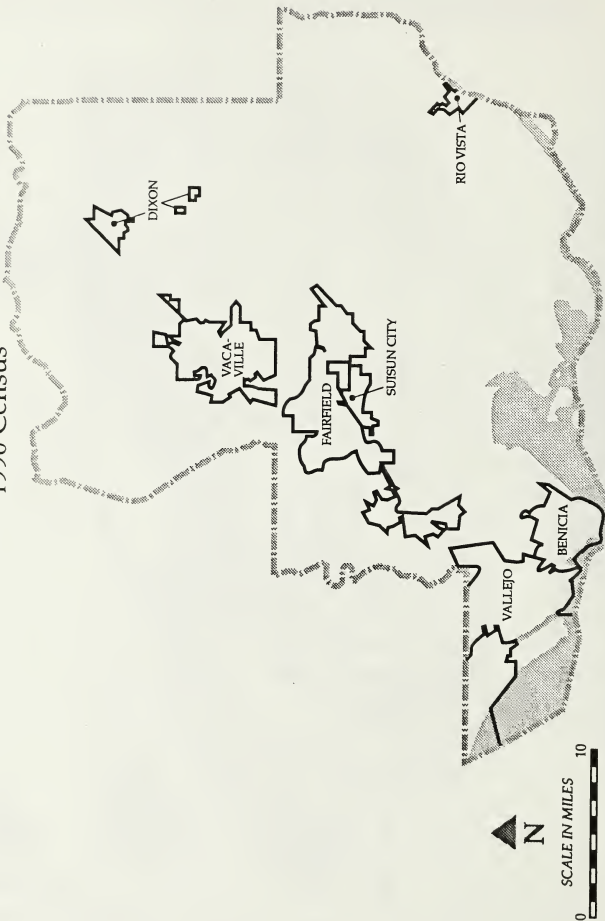
ALL UPPER CASE = *Incorporated Cities*
 Upper and Lower Case = *Unincorporated Census Designated Places (CDP)*

Figure C-6
Santa Clara County
 Location of Cities and Census Designated Places
 1990 Census



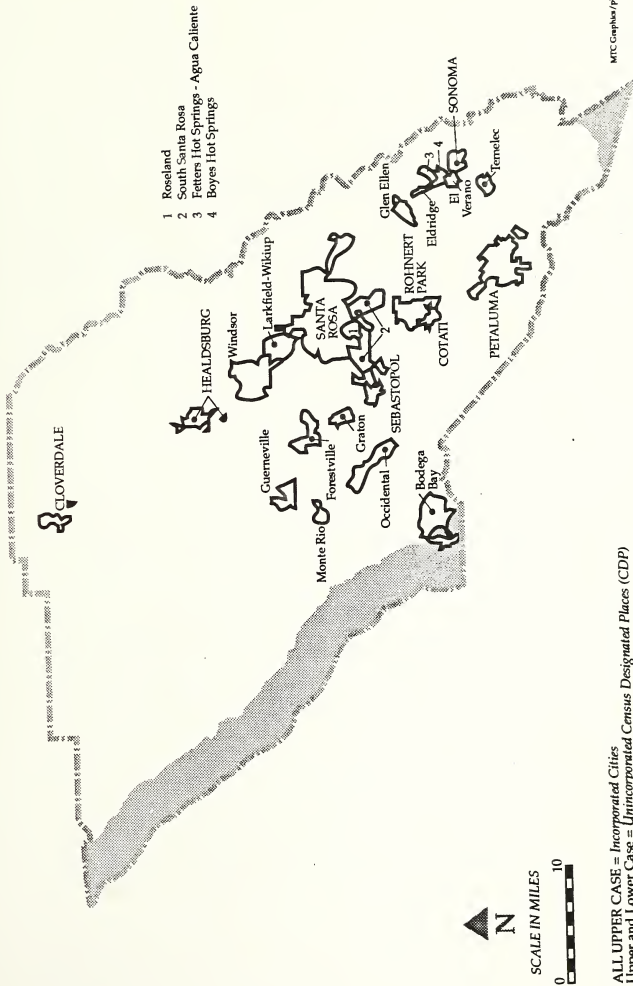
ALL UPPER CASE = Incorporated Cities
 Upper and Lower Case = Unincorporated Census Designated Places (CDP)

Figure C-7
Solano County
 Location of Cities and Census Designated Places
 1990 Census



ALL UPPER CASE = Incorporated Cities
 Upper and Lower Case = Unincorporated Census Designated Places (CDP)

Figure C-8
Sonoma County
 Location of Cities and Census Designated Places
 1990 Census



ALL UPPER CASE = Incorporated Cities
 Upper and Lower Case = Unincorporated Census Designated Places (CDP)

APPENDIX D

Description of MTC 34 Superdistricts

Appendix D

Description of MTC 34 Superdistricts

Superdistrict #1. Greater Downtown San Francisco. This area, the northeastern quadrant of the city, is bounded by Van Ness Avenue on the west, 11th Street on the southwest, and Townsend Street on the south. This superdistrict includes the following neighborhoods and districts: Financial District, Union Square, Tenderloin, Civic Center, South of Market, South Park, Rincon Hill, Chinatown, Jackson Square, Telegraph Hill, North Beach, Nob Hill, Russian Hill, Polk Gulch and Fisherman's Wharf. Treasure Island and Yerba Buena Island are also part of superdistrict #1.

Superdistrict #2. Richmond District. This area, the northwestern quadrant of the city, is bounded by Van Ness Avenue on the east, Market Street on the southeast, and 17th Street, Stanyan Street, and Lincoln Way on the south. Superdistrict #2 includes the following neighborhoods and districts: the Presidio, the Western Addition District, the Marina, Cow Hollow, Pacific Heights, Cathedral Hill, Japantown, Hayes Valley, Duboce Triangle, the Haight-Ashbury, the Richmond District, Inner Richmond, Outer Richmond, Laurel Heights, Sea Cliff, and the Golden Gate Park.

Superdistrict #3. Mission District. This area, the southeastern quadrant of the city, is bounded by Townsend Street, 11th Street, Market Street, 17th Street, Stanyan Street, and Lincoln Way on the northern boundary; 7th Avenue, Laguna Honda, Woodside Avenue, O'Shaughnessy Boulevard and other smaller streets (Juanita, Casita, El Verano, Ashton, Orizaba) on the western boundary; and by the San Mateo County line on the southern boundary. Superdistrict #2 includes the following neighborhoods and districts: China Basin, Potrero Hill, Inner Mission, Outer Mission, Twin Peaks, Parnassus Heights, Dolores Heights, Castro, Eureka Valley, Noe Valley, Bernal Heights, Glen Park, Ingleside, Ocean View, the Excelsior, Crocker-Amazon, Visitacion Valley, Portola, Bayview, and Hunters Point.

Superdistrict #4. Sunset District. This area, the southwestern quadrant of the city, is bounded by Lincoln Way (Golden Gate Park) on the north; 7th Avenue, Laguna Honda, Woodside Avenue, O'Shaughnessy Boulevard and other smaller streets (Juanita, Casita, El Verano, Ashton, Orizaba) on the eastern boundary; and by the San Mateo County line on the southern boundary. Superdistrict #4 includes the following neighborhoods and districts: Inner Sunset, the Sunset District, Sunset Heights, Parkside, Lake Merced District, Park-Merced, Ingleside Heights, West Portal and St. Francis Wood.

Superdistrict #5. Daly City / San Bruno. This northern San Mateo County superdistrict includes the communities of Daly City, Colma, Brisbane, South San Francisco, Pacifica, San Bruno, Millbrae, and the north part of Burlingame. The boundary with superdistrict #6 is Broadway, Carmelita Avenue, El Camino Real, Easton Drive, the Hillsborough / Burlingame city limits, Interstate 280, Skyline Boulevard, the Pacifica city limits, and the Montara Mountain ridgeline extending to Devil's Slide on the coast.

Superdistrict #6. San Mateo / Burlingame. The central San Mateo County superdistrict includes the communities of Hillsborough, San Mateo, Foster City, Belmont, the southern part of Burlingame, and the coastside communities of Montara, Moss Beach, El Granada, and Half Moon Bay. The southern boundary of superdistrict #6 is the Foster City city limits, the Belmont / San Carlos city limits, Interstate 280, Kings Mountain, Lobitos Creek extending to Martins Beach on the coast.

Superdistrict #7. Redwood City / Menlo Park. The southern San Mateo County superdistrict includes the communities of San Carlos, Redwood Shores, Redwood City, Atherton, Menlo Park, East Palo Alto, Woodside, Portola Valley, and the coastside communities of San Gregorio and Pescadero.

Superdistrict #8. Palo Alto / Los Altos. This Santa Clara County superdistrict includes the communities of Palo Alto, Los Altos, Los Altos Hills, and the western part of Mountain View. Boundaries include the San Mateo County line, US-101 on the north, and Cal-85 (Stevens Creek Freeway) and Stevens Creek on the east.

Superdistrict #9. Sunnyvale / Mountain View. This is the "Silicon Valley" superdistrict and includes the communities of Mountain View (eastern part and shoreline), Sunnyvale, Santa Clara (northern part), Alviso, and San Jose (northern part). Also included in this superdistrict is the "Golden Triangle" district. Superdistrict #9 is bounded by US-101, Cal-85, Stevens Creek on the western boundary; Homestead Road on the southern boundary; Pierce Street, Civic Center Drive and the SP tracks in Santa Clara City; and Interstate 880 as the eastern boundary.

Superdistrict #10. Cupertino / Saratoga. This superdistrict is located in south central Santa Clara County and includes the communities of Cupertino, Saratoga, Santa Clara (southern part), Campbell (western part), San Jose (western part), Monte Sereno, Los Gatos and Redwood Estates. This area is bounded by Stevens Creek and the Santa Cruz Mountains on the west, Homestead Road on the north, Interstate 880 / California Route 17 on the east; Union Avenue, Camden Avenue and Hicks Road (San Jose) also on the eastern boundary; and the Santa Clara / Santa Cruz county line on the south.

Superdistrict #11. Central San Jose. This central Santa Clara County superdistrict is comprised of San Jose City (central area), Santa Clara City (downtown area), and Campbell (east of Cal-17). The general boundaries of superdistrict #11 are Interstate 880 / Cal -17 on the west; US-101 on the east; and the Capitol Expressway, Hillsdale Avenue, Camden Avenue, and Union Avenue on the south boundary.

Superdistrict #12. Milpitas / East San Jose. This eastern Santa Clara County superdistrict includes the City of Milpitas, and the East San Jose communities of Berryessa, Alum Rock, and Evergreen. Boundaries include Interstate 880 and US-101 freeways on the west; San Jose City limits (Evergreen) on the south; and the mountains on the east.

Superdistrict #13. South San Jose. This south central Santa Clara County superdistrict includes the southern part of San Jose including the Almaden and Santa Teresa neighborhoods. Superdistrict #13 is surrounded by superdistrict #10 on the west; superdistrict #11 on the north; superdistrict #12 on the northeast; and superdistrict #14 on the south at Metcalf Road (Coyote).

Superdistrict #14. Gilroy / Morgan Hill. This area of Santa Clara County is also known as "South County" and includes the communities of Gilroy, Morgan Hill, San Martin and the Coyote Valley. Also included in this superdistrict are Loma Prieta (western boundary of the superdistrict) and Mount Hamilton in the northeastern, rural portion of Santa Clara County. This area is bounded by Santa Cruz and San Benito Counties on the south, and Merced and Stanislaus Counties on the eastern border.

Superdistrict #15. Livermore / Pleasanton. This is the eastern Alameda County superdistrict including the Livermore and Amador Valley communities of Livermore, Pleasanton, Dublin, San Ramon Village, and Sunol. This superdistrict includes all of eastern Alameda County east of Pleasanton Ridge and Dublin Canyon.

Superdistrict #16. Fremont / Union City. The southern Alameda County superdistrict includes the communities of Fremont, Newark and Union City. The boundaries for this superdistrict are the Hayward / Union City city limits on the north side; the hills to the immediate east; the Santa Clara / Alameda County line on the south; and the San Francisco Bay on the west.

Superdistrict #17. Hayward / San Leandro. This southern Alameda County superdistrict includes the communities of Hayward, San Lorenzo, San Leandro, Castro Valley, Cherryland, and Ashland. The northern border is the San Leandro / Oakland city limits.

Superdistrict #18. Oakland / Alameda. This northern Alameda County superdistrict includes the island city of Alameda, Oakland, and Piedmont. The Oakland neighborhoods of North Oakland and Rockridge are in the adjacent superdistrict #19. The border between superdistricts #18 and #19 are the Oakland / Emeryville city limits; 52nd and 51st Streets; Broadway; and Old Tunnel Road.

Superdistrict #19. Berkeley / Albany. This northern Alameda County superdistrict includes all of Emeryville, Berkeley, and Albany, and the Oakland neighborhoods in North Oakland and Rockridge. The superdistrict is surrounded by the Alameda / Contra Costa county lines; the San Francisco Bay; and the Oakland superdistrict.

Superdistrict #20. Richmond / El Cerrito. This is the western Contra Costa superdistrict. It includes the communities of Richmond, El Cerrito, Kensington, Richmond Heights, San Pablo, El Sobrante, Pinole, Hercules, Rodeo, Crockett, and Port Costa. The eastern boundary to superdistrict #20 is defined as the Carquinez Scenic Drive (east of Port Costa); McEwen Road; California Route 4; Alhambra Valley Road; Briones Road through the Regional Park; Bear Creek Road; and Wildcat Canyon Road to the Alameda / Contra Costa county line.

Superdistrict #21. Concord / Martinez. This is one of three central Contra Costa County superdistricts. Superdistrict #21 includes the communities of Concord, Martinez, Pleasant Hill, Clayton, and Pacheco. This area is bounded by Suisun Bay on the north; Willow Pass and Marsh Creek on the east; Mt Diablo on the southeast; and Cowell Road, Treat Boulevard, Oak Grove Road, Minert Road, Bancroft Road, Oak Park Boulevard, Putnam Boulevard, Geary Road, and Pleasant Hill Road on the south; and Briones Park, Alhambra Valley Road and Cal-4 on the west.

Superdistrict #22. Walnut Creek. This central Contra Costa County superdistrict includes the communities of Walnut Creek, Lafayette, Moraga and Orinda. The latter three communities are more popularly known as Lamorinda. The border with superdistrict #23 generally follows the southern city limits of Walnut Creek.

Superdistrict #23. Danville / San Ramon. This central Contra Costa County superdistrict, also known as the San Ramon Valley, includes the communities of Danville, San Ramon, Alamo and Blackhawk. Superdistrict #23 is bounded on the west and south by the Alameda / Contra Costa county line; on the east by Marsh Creek and Kellogg Creek, and on the north by superdistricts #21 and #22.

Superdistrict #24. Antioch / Pittsburg. This is the east Contra Costa County superdistrict and includes the communities of West Pittsburg, Pittsburg, Antioch, Oakley, Byron, Bethel Island, Brentwood and Discovery Bay. This district is separated by the Willow Pass hills and Mt Diablo on the west from the rest of Contra Costa County.

Superdistrict #25. Vallejo / Benicia. This is the southern area of Solano County and includes the communities of Vallejo, Mare Island and Benicia.

Superdistrict #26. Fairfield / Vacaville. This is the northern area of Solano County and includes the communities of Fairfield, Vacaville, Suisun City, Dixon, Rio Vista and Cordelia.

Superdistrict #27. Napa. This is the southern part of Napa County including Napa City and American Canyon. The northern limits of superdistrict #27 are generally the northern city limits of Napa.

Superdistrict #28. St. Helena. This is the northern Napa County superdistrict and includes the communities of St. Helena, Calistoga, Yountville, Angwin, and Pope Valley.

Superdistrict #29. Petaluma / Rohnert Park. This is the southern superdistrict in Sonoma County and includes the communities of Petaluma, Rohnert Park, and Cotati, and the Sonoma Valley communities of El Verano, Boyes Hot Springs, Glen Ellen, Kenwood and the City of Sonoma.

Superdistrict #30. Santa Rosa / Sebastopol. Superdistrict #30 is the central Sonoma County area and includes the communities of Santa Rosa, Sebastopol, Oakmont, Graton, and Mark West.

Superdistrict #31. Healdsburg / Cloverdale. This is the large, northern area of Sonoma County including the communities of Healdsburg; Cloverdale; Windsor; Geyserville; Asti; Alexander Valley; the Russian River communities of Forestville, Rio Nido, Guerneville, and Monte Rio; and the coastal communities stretching from Sea Ranch in the north, through Jenner and to Bodega Bay in the south.

Superdistrict #32. Novato. This is the northeast corner of Marin County including the City of Novato, Rafael Village and Hamilton Air Force Base.

Superdistrict #33. San Rafael. Superdistrict #33 is the central Marin superdistrict and includes most of West Marin County. Communities in this area include San Rafael, San Anselmo, Fairfax, Ross, Kentfield, Larkspur, Woodacre, San Geronimo, Forest Knolls, Lagunitas, Olema, Point Reyes Station, Inverness, Marshall and most of the Pt Reyes Peninsula.

Superdistrict #34. Mill Valley / Sausalito. This is the southern Marin County superdistrict and includes the communities of Sausalito, Mill Valley, Corte Madera, Strawberry, Tiburon, Belvedere, San Quentin, Tamalpais Valley, Marin City, Muir Woods, Muir Beach, Stinson Beach, and Bolinas.

Annotated Bibliography of 1990 Census Analyses (San Francisco Bay Area) Metropolitan Transportation Commission

- August, 1992 -

MTC Data Releases

Ranking of Metropolitan Areas in the United States and California by 1990

Population: 1990 Census: Data Release #1. May, 1991. This data release contains national and California state rankings of metropolitan areas (Consolidated Metropolitan Statistical Areas, Primary Metropolitan Statistical Areas, and Metropolitan Statistical Areas – CMSAs, PMSAs, and MSAs), including 1980 and 1990 total population data.

Ranking of Cities in the United States and California by 1990 Population: 1990

Census: Data Release #2. May, 1991. This data release contains national, California state and Bay Area rankings of incorporated cities, including 1980 and 1990 total population data. Only cities with 1990 population greater than 100,000 are ranked.

Ranking of Counties in the United States and California by 1990 Population: 1990

Census: Data Release #3. July, 1991. This data release contains national, California state and Bay Area rankings of counties, including 1980 and 1990 total population data. Only counties with 1990 population greater than 100,000 are ranked in the national table. All California counties are included in Table 2.

Ranking of Urbanized Areas in the United States and California by 1990

Population: 1990 Census: Data Release #4, August, 1991. This data release contains national, California state and Bay Area rankings of urbanized areas, including 1980 and 1990 total population data. All urbanized areas with 1990 population greater than 50,000 are ranked.

MTC Working Papers

Bay Area Population Characteristics: 1990 Census: Working Paper #1. April, 1992.

This working paper summarizes data from the 100 percent counts contained in the 1990 Census Summary Tape File 1A (STF1A) at county and MTC 34 superdistrict level. Comparisons to past census years are provided. Data items analyzed include total population, household population, total households, average household size, owner-occupied and renter-occupied households, race and ethnicity, sex, age, land use, population density, household density, group quarters population, value of owner-occupied dwelling units, and historical population growth by county (1860-1990).

Bay Area Travel and Mobility Characteristics: 1990 Census: Working Paper #2.

August, 1992. This working paper summarizes data from the sample data contained in the 1990 Census Summary Tape File 3a (STF3A) at county, MTC 34 superdistrict, and place level. Comparisons to the 1980 Census values are provided. Data is also provided for counties adjacent to the Bay Area. Data items reviewed include: employed residents, household income, vehicle availability, residential mobility, disability, place-of-residence to place-of-work location; means of transportation to work; commute vehicle occupancy; trip length for the journey-to-work; and time of departure to work. A section of the working paper discusses the reasons for these changes in commute travel, focusing on the dollars and cents of commuting, the dollars and cents of transportation investments, the changing patterns of urban development and the changing patterns of household demographics. Comparisons of Bay Area to National trends are included in the last section.

MTC Technical Notes

New 1990 Census Data: The Reapportionment File. March 8, 1991. This staff memorandum includes Bay Area city, county and regional summaries of the PL 94-171 tape file, also known as the "reapportionment file". Attached to this memorandum is the State Data Center's report C90-PL-1. Data items include total population by race, total housing units, population age 18+, and population density.

County and Regional Summaries of Selected Variables from STF1. May 22, 1991.

This staff memorandum includes Bay Area county and regional summaries of selected items from the Summary Tape File 1A tape file (STF1A). All data from this staff memorandum are included in MTC Working Paper #1.

Transportation-Related Data from the 1990 Census Summary Tape File 3A (STF3A): Technical Note #1. May 11, 1992. This staff memorandum includes Bay Area county and regional summaries of selected items from 1990 Census long-form "sample data" (1-in-8 Bay Area households) contained in the Summary Tape File 3A (STF3A). Data items include: workers by commute mode (1960-1990), mean travel time from home-to-work (1980-1990), vehicle ownership (1960-1990), commuters by persons in vehicle (1980-1990), average commute vehicle occupancy (1970-1990), and percent workers working in county-of-residence (1960-1990). This technical note was released on the first day of official release of the STF3A tape file. Also included in this technical note is a brief discussion on why these changes in commute travel have occurred. *All data from this technical note are included in MTC Working Paper #2.*

Transportation-Related Data from the 1990 Census Summary Tape File 3A (STF3A): Technical Note #2. June 9, 1992. This staff memorandum includes Bay Area county and regional summaries of selected items from Summary Tape File 3A (STF3A). This technical note was produced to complement technical note #1. Data items include: commuters by trip length (minutes) to work (1980-1990), workers by departure time to work (1990 only), vehicle ownership (1960-1990), employed residents and employed per household (1980-1990), households by household income (1990), mean household income (1980-1990), growth in intra-county versus inter-county commuting (1980-1990), and Bay Area county-to-county commute patterns (1960-1990) based on STF3A analyses. *All data from this technical note are included in MTC Working Paper #2.*

Transportation-Related Data from the 1990 Census Summary Tape File 3A (STF3A): Counties Adjacent to Bay Area. Technical Note #3. June 22, 1992. This staff memorandum includes selected items from Summary Tape File 3A (STF3A) for the twelve counties adjacent to the Bay Area. Data items include: population, households, workers, intra-county commuters, average commute time, commute time 60+ minutes, mean vehicle occupancy, workers by commute mode, mean household income, and vehicle ownership. No historical comparisons are provided. *All data from this technical note are included in MTC Working Paper #2.*

Acknowledgments

MTC Management Staff

Lawrence D. Dahms, Executive Director

William F. Hein, Deputy Executive Director

Chris Brittle, Manager, Planning Section

Marilyn M. Reynolds, Manager, Technical Services Section

Project Staff

Charles L. Purvis, Senior Transportation Planner/Analyst (Report Author)

Shirley A. Rodenborn, Associate Transportation Analyst

Peter Beeler, Graphic Artist



